MOTOR TREND

Testing the Continental's Competition

SEPTEMBER 1956 25c

What Would YOU Like to See in the '57 CARS?

See page 32

TUNE-UP TRAPS

See page 38

New Baby Cadillac?
New Chevy? See page 18

STOP CHANGING OIL! BUYING FILTERS!

New Life-Long Filter Made of Cal-si-loy Gives 20,000 Miles per Oil Change!

Latest and most startling development in the automotive industry is a new type permanent oil filter made of a recently perfected alloy which not only possesses super-efficient filtering properties, but also prevents corrosive engine acids from forming.

CAL-SI-LOY – A MAGIC METAL!

Sintered bronze filters have proved their tremendous superiority over old-type paper and rag replacement packs. However, bronze is not the most ideal metal for the purpose.

Now, the discovery of Cal-si-loy by the Canadian National Research Council makes possible the most perfect filter yet devised! Millions of silvery spherical metal balls are compressed into a solid but porous wall that provides the most efficient filter known. The Life-Long Filter cannot channel, works perfectly in hot and cold climates.

ENDS REPLACEMENT FOREVER

The Life-Long CAL-SI-LOY Filter never needs replacing, lasts forever with only an occasional cleaning. It purges your oil of all impurities—abrasives, dirt, sludge and corrosive engine acids—keeping it clean and fresh for 20,000 miles or more between changes. Unlike the old bronze type filter, the Life-Long Cal-si-loy Filter keeps your oil bright and clear.

REPELS MOISTURE – CANNOT ABSORB ADDITIVES

• By eliminating moisture and engine acids, the Life-Long Filter eliminates sludge. All-metal, it cannot absorb the additives in your oil. The entire Cal-si-loy filter wall acts as a catalyst to destroy the damaging acids your engine produces. The Life-Long Permanent All-Metal Filter has the greatest filtering surface of any type of filter. Rigidly constructed, the Life-Long Filter easily withstands 3950 lbs. pressure, as proven by the Baldwin Lima Tests.

"OIL DOES NOT WEAR OUT MECHANICALLY" SAYS U. S. BUREAU OF STANDARDS

• Test after test has proved that if acids, metal particles and dirt can be kept out of your oil, its lubricating efficiency remains unimpaired for 20,000 miles or more. Today's high-compression engines are built to amazingly close tolerances—it is essential that your filter screen out particles down to *only millionths of an inch in size. Life-Long Filters screen out infinitesimally small particles—smaller than any other type of filter!*

SAVES YOU HUNDREDS OF DOLLARS...GIVES YOU NEW CAR PERFORMANCE!

The Life-Long Filter can make your engine last twice as long without overhaul or expensive repairs. You get more mileage from your gasoline and oil, enjoy new car pep and performance from your old car!

Special note to owners of cars with hydraulic valve-lifters: The Life-Long Filter quiets your valve-lifters because it eliminates the fine particles of abrasives and metal in your oil which cause valve clatter.

ONLY LIFE-LONG GIVES YOU THESE IMPORTANT ADVANTAGES!

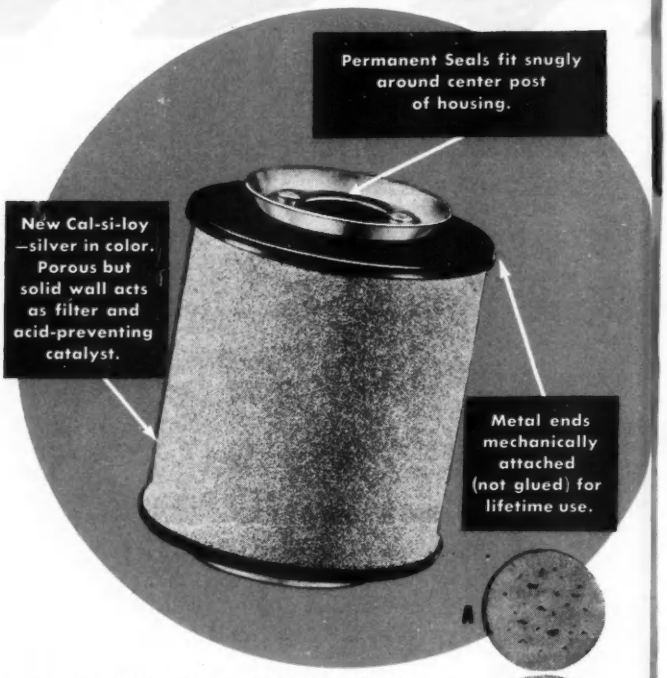
- **Never needs replacement**
- **Filters the most minute particles**
- **Cannot channel or blow-up**
- **Saves the valuable detergent in your oil**
- **Contains no paper or rags that may loosen and clog your oil system**
- **Acts as a catalyst to prevent acid formation**
- **Repels moisture and prevents sludge from forming**
- **Efficient in hot or cold climates**
- **Cannot be cut by sharp metal particles**
- **Never wears out**
- **Easy to install—easy to clean**
- **Proven in most exacting use in guided missiles and jet aircraft**
- **Thoroughly investigated by U.S. Patent Office and issued Pat. No. 2716492**

NOT JUST A FILTER – BUT AN ACID PREVENTING CATALYST!

Every Life-Long Filter contains one full pound of active catalytic Cal-si-loy metal—the *entire surface* is an acid preventative, not just a small piece of metal neutralizer.

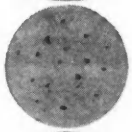
MONEY-BACK GUARANTEE

• Life-Long Filter is unconditionally guaranteed to completely protect your oil for at least 20,000 miles. Free replacement of the unit during the entire life of your car if any mechanical failure develops in your Life-Long Filter!


Permanent Seals fit snugly around center post of housing.
New Cal-si-loy —silver in color. Porous but solid wall acts as filter and acid-preventing catalyst.
Metal ends mechanically attached (not glued) for lifetime use.

FIFTY MILLION FILTER TRAPS!

These photos (greatly magnified) show the difference in filter efficiency. Photo A shows the damaging particles present in unfiltered oil after limited use. Photo B shows the particles remaining in oil after filtering through old-style packs after limited service. In Photo C, the harmless, infinitesimal particles remaining after screening through a Life-Long Cal-si-loy Filter are not visible even though magnified!



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• You can install the Life-Long Filter yourself in five minutes, and it is easy to clean. Only $9.95 for all cars using by-pass filters. Full-flow models only $12.95 (Buick V-8, Olds V-8, Pontiac V-8, '54-'56 Ford V-8 and Mercury, '52-'56 Ford 6 and Lincoln, '46-'56 Chrysler). Housing, only $9.95. Satisfaction guaranteed or money refunded. Use the coupon now to order direct from the factory!

OPEN LETTER TO ALL OIL COMPANIES!

This revolutionary new-type of oil-preserving filter is not for sale to selfish interests wishing to remove it from the market. I pledge to the motoring public that the Life-Long Cal-si-loy Filter will at all times remain available at a fair price to all motorists.

J. M. Hatt
PRESIDENT

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CONTENTS
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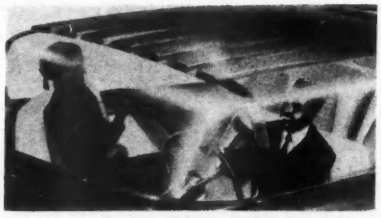
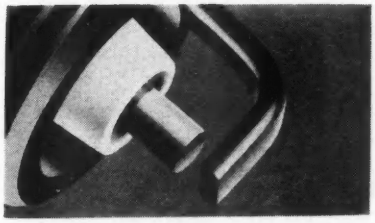
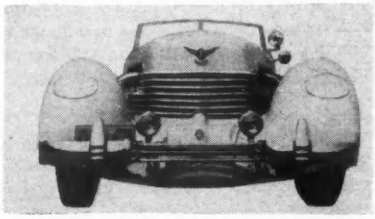
SPECIAL THIS ISSUE . . .



FORECAST FOR '57 should help you decide whether to buy a '56 model or wait till next year. See page 20



SPARKPLUGS—A comprehensive study of plugs and the part they play in your car's performance. See page 34



IS THE CORD really the classic that is the most fun to drive? Read the Drivescription on page 42

THE COVER: A perfect combination of elegant luxury and thrilling performance—that's the Facel Vega, pictured at the top. Photo by our own Bob D'Olivo. Below it is our nomination for the most provocative creation of the year, the El Morocco—also known as the poor man's Eldorado. Ektachrome is by Bob MacKenzie.

cars to come

20 *If You Wait for '57*

general

10 *Spotlight on Detroit: Specialty Cars*
17 *Plastics Progress*
25 *26 Bucks Across the U.S.—in a Rambler*
32 *Win-a-New-Car Contest: What Do You Want in '57?*
36 *There's Nothing New—It's Been Tried Before*

classic cars

42 *Drivescription of the Cord 812*

custom cars

18 *El Morocco—the New Baby Cadillac*
40 *4 Customs That Are "Slightly Offbeat"*

foreign cars

26 *Road Tests of MG Magnette, Simca Vedette*
28 *Retort to the VW: the Renault Dauphine*
30 *2 New Classics: Dellow and Rometsch*
50 *Driving Around: Facel Vega and Austin-Healey Le Mans*

sports

58 *Motor Sports: Pikes Peak, Darlington, Drags*

technical

8 *MT Previews: Haight Hurricane Engine*
14 *'56 Olds Hydra-Matic vs. Stick Shift*
22 *Air Conditioning: Be a Cool Customer*
34 *Sparkplugs: The Spark of Life*
38 *A Word to the Wise About "Tune-Up Traps"*
66 *Questions: 4 Barrels of Trouble*
70 *Do It Yourself—But Not the Hard Way*

departments

4 *Memo from the Editor*
6 *Letters*
12 *Glove Compartment*
16 *Car Owner's Library*
68 *Motoring Accessories*
71 *Sell 'N' Swap Ads*
74 *From the Rear Seat: Wraparounds*

next month

NEXT MONTH MT presents the 1st complete road test of the fantastic and sensational Citroen, France's entry in the $3000 price class. It has been a long time since we have come across a car that has evoked so much interest and enthusiasm . . .

MORE ON THE '57 CARS: What will fuel injection and 14-inch tires in next year's models mean to you as an owner? . . .

IF YOU HAVE HOPES of winning our new car, we will give you the rules for the 2nd and last half of the MT Win-a-New-Car Contest . . .

WAXES AND POLISHES—just how good are they? Of all the available varieties and brands on the market today, which is the best for your car?

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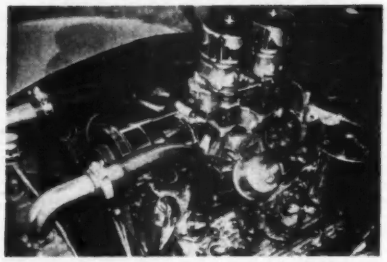

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MEMO FROM THE EDITOR

THIS ISSUE MARKS a milestone in our young career. With it we start on our 8th year of publication. Since September, 1949, when we published 40,000 copies of MOTOR TREND and sweated out our sales for the crucial 1st 6 months, there has been much progress in all things.

We started in the business of publishing with the intention of providing more than just an enthusiasts' magazine. We wanted to eventually reach our goal of becoming a spokesman for the motoring public.

In certain ways we feel that we are now doing this: in our straightforward "From the Rear Seat," in our criticism of specific road test cars, and thru publishing your complaints and suggestion in our "Open Letters to the Manufacturers." As time goes on we will undoubtedly find other ways of focusing on those items crying for improvement.

IN THE MATTER of a few weeks the '57 models will begin rolling off the assembly lines in Detroit, Flint, Lansing, and (we hope) South Bend. There has been lots of talk about how new the new cars would be, how the industry laid back after a big year of changes in '55, looking ahead to '57. Most of it has been talk, as our article on page 20 tells you.

One facet about some of the new cars that seems totally unrealistic is their increasing length. It would seem to us that the overcrowded highways, city streets, and parking lots would almost dictate smaller overall car dimensions. When cars like the Ford Consul and Zephyr (Aug. '56 MT) can be designed with a considerably smaller exterior than their Detroit cousin and still have virtually the same interior dimensions, there seems to be little need for the larger package.

What's wrong with cars the size of the Willys, the short-wheelbase '49 Plymouth, and the Simca (in this issue)? Do we have to have a broad expanse of metal surrounding us to give us a feeling of importance? Tho we don't advocate that all cars be made as small as the Volkswagen, its size for crowded city streets certainly gives it the edge in getting from Point A to Point B with the least amount of strain. Something in between the size of the VW and our Detroit cars would assuredly be both small enough and large enough.

WHILE WE'RE ON THE SUBJECT of editorial viewpoint, we'd like you to know where we stand (aside from the question of more sensibly sized cars). First of all, we want to provide news about the entire automotive world. It makes no difference where that news originates; if it's important, or interesting, we'll tell you about it. And we'll continue to cover, and expand our coverage of, *all types* of cars.

As for what else we'd like to see in tomorrow's cars, we'd like them to be more roadable, to have surer brakes, to have safer interiors, and to give more fuel economy. They should travel on more adequate highways (the $15 billion Federal aid bill is just a start) with more uniform markings and laws, policed by law enforcement agencies more interested in prevention than arrests.

NO MATTER HOW GOOD the highway system becomes, or how simple it becomes to drive, the motorist is still largely responsible for making life easier for his fellow driver. It seems that plain, old-fashioned courtesy is becoming rarer and rarer. It doesn't seem to make much difference where you are—on the open highway, on city streets, in the mountains, or on an expressway—the motorist who *wants* to drive slowly in the fast lane can't be persuaded to move over, regardless of how long the line of traffic is behind him. Why don't we all use our rear-view mirrors more? And if someone wants to pass us, we shouldn't take it as losing a race.

—Walt Woron

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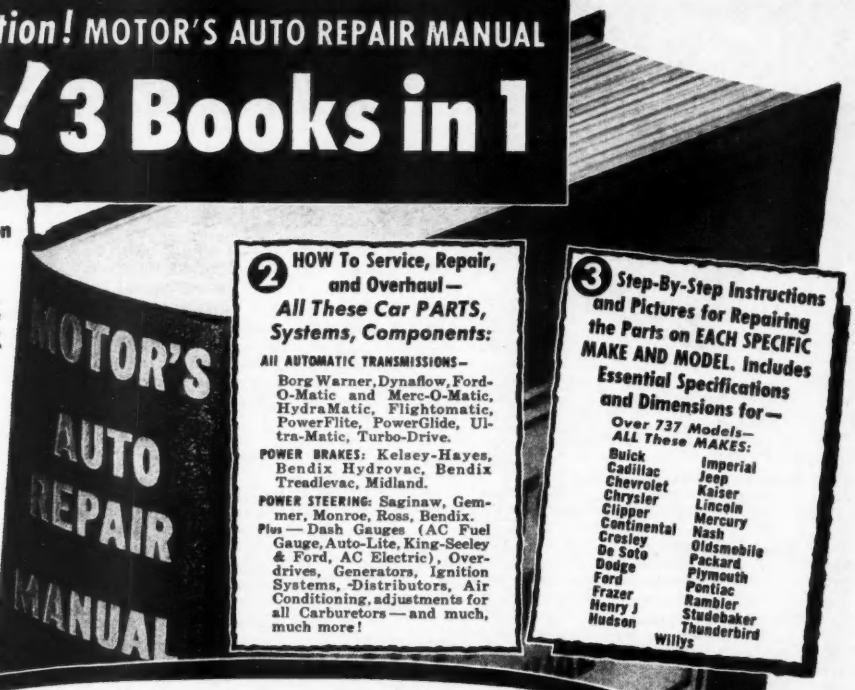

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Don Francisco tells how to build altered steering components you may need in engine swapping—lowering, etc.

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LETTERS

OUR ERROR

Dear Walt:

I must protest the serious error which occurred in your Indianapolis report (August MOTOR TREND). Jimmy Reece is listed as "only finisher not using Champion Plugs," which is not true. Sam Hanks, who finished 2nd, used LODGE spark plugs, as did 9 of the 33 starters in the race. Hanks was only 17 seconds behind Flaherty at the finish, having come from 13th place at the start, and ran the last 177 laps with a crash-damaged steering.

Other drivers who ran with Lodge plugs were Jimmy Bryan, Troy Ruttman, Tony Bettenhausen, Cliff Griffith, Gene Hartley, Eddie Johnson, Ed Elisian, and, of course, Jimmy Reece. Bryan, Ruttman and Bettenhausen were eliminated by crashes, while running among the leaders. None of the Lodge-equipped cars suffered a single misfire or plug failure during practice, qualifying, or the race itself. This is an unmatched record of reliability.

As for statistics, of the 9 Lodge-equipped cars, 6 were running at the end, or 66.6 per cent. Of the 24 cars using other plugs, 13 were running at the end, or 54.1 per cent.

Hope you will correct the false impression some of your readers gained from the earlier report, and let them know what a fine job Lodge did at Indianapolis.

G. Thatcher Darwin — Compton Advertising, Los Angeles

Our sincere apologies to Lodge for our error. —Editor

Dear Sir:

Your caption on the Indianapolis story ("Trouble on Wheels," Aug. '56 MT) is incorrect. Car No. 27 is not a Kurtis 500-G, as reported by Don MacDonald. It was built in 1952 by Myron Stevens, Phoenix, Ariz., machine shop owner, and myself (a Los Angeles race car builder). It was originally the '52 Anstead Rotary Special, and is powered by a Meyer-Drake engine set at a 20-degree tilt, with an offset gearbox.

Roscoe Ford — Los Angeles

THREE'S A CROWD?

Dear Sir:

Your editorial, "Will It Be the Only 3?" [June '56 MT] presents a shocking thought. Where is the old American idea of freedom and respect for the little fellow?

The independents certainly turn out refreshing styles and good engineering but they lack one thing—customers. Could it be that they lack super salesmanship as well? Or have we become a nation of follow-the-masses with no thought of personal identity or individuality?

Jim Pennymore — Fort Valley, Ga.

GAS PAINS

Dear Sirs:

. . . Most gripes of poor gasoline mileage ["From the Rear Seat," Aug. '56 MT] are borne of owners who just aren't using their heads. These gripes are more or less due to the choice of cars and engines by the owners themselves. Even when the right choice is made for economy's sake, owners are often reluctant to do the periodic tune-ups or to pay for them at the shop.

If a prospective buyer is really serious about fuel economy, his choice should be [a car] designed for economy. Several of these are still marketed in relatively small numbers. These would include Studebaker, Rambler, Ford, Chevrolet, Plymouth 6s with overdrive and a multitude of foreign cars such as the British-made Fords ["Faster Foreign Fords," Aug. '56 MT].

W. T. Basore — Oklahoma City, Okla.

Gentlemen:

It's really a shame that fuel economy means so little to automobile manufacturers when so many people are conscious of how much their own cars are giving in mpg.

I personally think they should spend a little more time on economy instead of 0-60 speeds, top speeds, power that is useless, and bulk that eats up gas. The fuel economy of '56 models is terrible and a disgrace to the great American automobile industry which is supposed to be so efficient and able to work towards improvements in new models. Each year it seems, mpg gets worse in our production models, prices go up, and to top it off, gasoline prices go up!

I hope the auto industry goes into the gas economy race when the horsepower race ends —if it ever does.

George Paulsen — Burlington, Wis.

A LITTLE BIT INDEPENDENT

Gentlemen:

I am heartily in agreement with Robert Osler's letter in the April '56 issue of MT. [Mr. Osler bemoaned the apathy of auto dealers].

Apparently automobile dealers and salesmen have not yet awakened from their glorious post-World War II days when customers accepted any sort of treatment in order to obtain a new car.

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is one of the big reasons for subscribing to MT. Another is the

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I too have never heard a word from the 3 dealers from whom I purchased my 3 previous cars, except for occasional routine mailing pieces. Also, the cars were very poorly serviced at delivery time and at subsequent free so-called inspection periods.

If all this hoopla in the selling of automobiles were abandoned and the pre-war methods of restricted territories, fewer dealers and realistic factory prices were resumed, everyone would benefit.

William H. Asenbeck — Arlington, Va.

A MANY SPLENDORED THING

Dear Sir:

You have so vigorously championed the cause of the motorist in his effort to get the best value for his money that I often wonder why it does not occur to you that after a man has saved up the price of a good car, his troubles have just begun. The minute he registers his name and address and the make of his car, he forfeits many of his rights as a citizen that the man without a car enjoys. The list of trifling abberations for which he can be haled into court and fined is appalling. His rights of property are abrogated because he makes use of public thorofares which the police are permitted to think are their own babies.

A parked car never killed anyone, but in spite of the awful glut of cars in motion, the law says that you must keep your car moving around every 18 hours.

Let's start in with arguments and try to get rid of some outmoded laws that have no purpose but to irritate a reasonable and law-abiding motorist.

Bert Lovett Forse — Washington, D.C.

THE TROUBLE WITH HARRY

Dear Sirs:

. . . I'm in favor of better cars, better handling, better economy, better safety, better performance . . . but let's put the blame where it really belongs—on the drivers of America. It's not an accident when someone loses control of a sloppy suspension system. It's not an accident when you hit a power pole or when you slip or are crowded off a narrow road that wasn't engineered with a safety apron. When a tire blows, someone is to blame for that faulty tire being on that car at that speed. Accidents are just a handy name for lack of responsibility on the part of the driver. We need better *drivers,* better roads, and better cars, in that order, if we are to stay alive.

Charles D. Wright — Mt. Vernon, Ill.

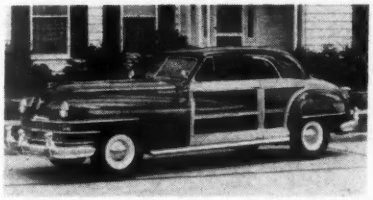
BEGONE, BUICK

Dear Sir:

I have just finished reading Pete Molson's delightful story, "Handsome Is as Handsome Does," in your March issue.

I am pleased, of course, that Imperial was chosen to illustrate the 2-door hardtop story on page 38. The lead paragraph states, "we will commit ourselves to the extent that all (original hardtop models) were '49 models and no further."

I have taken the liberty of enclosing a picture of the 1st American-built, mass-produced, hardtop-designed automobile—a 1947 Chrysler Town and Country.



By our calculations, this puts Chrysler approximately 2 years ahead of the Buick hardtop, claimed by Buick to be the 1st in the industry.

John O. Montgomery, Director of Public Relations — Chrysler Corp., Detroit 31

OPEN LETTERS TO THE MANUFACTURERS

Gentlemen:

I have an idea which I have been told has been thought of before and subsequently dropped. If such is the case, I believe that it is worth reconsideration. The idea is simply to equip motor vehicles with side lights arranged to flood the road to the immediate left of the vehicle with light when the low headlight beam is switched on. Some of the advantages would be:

1. Better visibility for approaching traffic, especially in "dirty" weather, brought about by partially eliminating the blind spot.
2. Better general street lighting in town. Each car is a street light. The heavier the traffic, the better the lighting.
3. Positive indication to other drivers that one's lights are on low beam.
4. Properly arranged on trucks and buses, the lights would more clearly show the vehicle's outline to approaching drivers.

As I visualize these side lights, there should be at least 2, placed one near the front and one near the rear for a passenger car, recessed into the body at about fender-top level. Each light should be hooded and lensed to provide even illumination for a fore-and-aft distance somewhat greater than the car length and extending in width from the car to about 10 feet out to the side. Obviously, there should be no glare to the eyes of passing drivers.

Robert E. Wooley — Albuquerque, N.M.

Dear Sir:

I am the unhappy owner of a so-called better make car. I have owned 3 new models of this make car—the 1st being a 1950 with which I was very well pleased, but my pleasure ended when I bought a '55 model of the same make. I now have a 1956 bucket of bolts with a curved windshield. I drove the car 1585 miles on a trip at a steady speed of 60 mph on the open highway and averaged 14.1 mpg.

The car developed a clicking in the rear end when I had driven it only 100 miles. The dealer claims that the manufacturer has a modification that will eliminate the noisy rear end, but I'm still the center of attraction when I drive down the street. The bystanders look surprised when they see it's a '56 model instead of Casey Jones' locomotive.

B. M. Alewine — El Paso, Tex.

Sir:

I wholeheartedly agree with your question, "How about it, Detroit?" ["From the Rear Seat," June '56 MT]. It's high time the driving public put the screws on the quality control departments of our car manufacturers.

I had to take my '56 Power Hawk apart and recaulk every seam in sight—something that was neglected at the factory. The car as a whole is the result of sloppy work.

After only 2000 miles, my right door glass is inoperable, the left vent window stop is torn out, the trim is misaligned and falling off, undercoat compound is slung all over the place and the finish is full of dirt and grit which shows up badly on my black finish.

Let's hold performance where it is for a year or 2 and build something that will hold together.

George Lewis — Hinesville, Ga.

(Advertisement)

McCulloch Supercharger Tips

by John Thompson

Some customers of ours have speed in their blood. Take John Von Neumann, for instance. He has a stable of racing Ferraries and Porsches and he hauls them to and from the tracks in a McCulloch supercharged International 240 truck-and-semi rig! Guess John likes to get there fast so he can go fast when he gets there!

Last month I told you about our McCulloch supercharger kit for the Golden Hawk. Well, the car got up to 145 mph (spedo) and still had some pedal left. We also got a 0-100 mph time of 16 sec flat which compares with the stock time of 22.6 sec.

Here's some interesting news that's a little out of the ordinary. Hiller helicopters (Models 12B and 12C) have received CAA certification with McCulloch superchargers aboard. The supercharger increases the craft's hover ceiling (IGE) 4,900 ft and its service ceiling 4,200 ft. Rate of climb at 5,000 ft is increased 255 ft/min., and at 10,000 ft, 370 ft/min. Anyone want a hot "whirly-bird"?

Incidentally, this reminds me. Some of you who read this column may know of interesting and different McCulloch supercharger installations. If you want to share them with other readers, send them to me. To me these out-of-the-ordinary installations prove the ability of the McCulloch supercharger to increase performance under a wide range of conditions.

Bill Crichton (who's been associated with Auto Electric Carburetor, one of our San Francisco distributors) has opened a new shop, Automotive Engineering Specialists, at 630 Van Ness, to specialize in McCulloch installations for gasoline powered engines. Auto Electric will continue the fine job they are doing with McCullochs for diesel engine installation. Their address is 131 Fell Street.

Incidentally, a recent exhibit of McCulloch superchargers at the National Truck and Trailer Show received considerable attention. Truckers were particularly impressed by figures on increased performance and smoke control brought about by McCulloch installations. I'll have a more detailed item about trucks in a later column.

Would you like to add 40 to 50 per cent more horsepower to your car without losing any smoothness or reliability? Would you like to feel the added acceleration and performance that this much more horsepower can give? If you're interested, write me: John Thompson, Paxton Products Division, McCulloch Motors Corp., 827 West Olive St., Inglewood, California. I'll send you an illustrated folder that tells all about McCulloch supercharger kits that fit most all recent V-8s. Be sure and give me the year and make of your car and tell me if you have power kit or other power accessories. I'll also send you price information on a kit to fit your car, and the name of your nearest McCulloch distributor.

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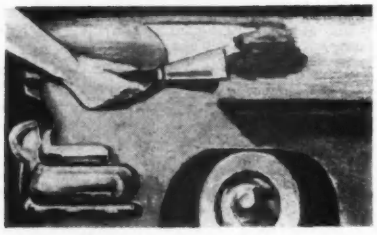

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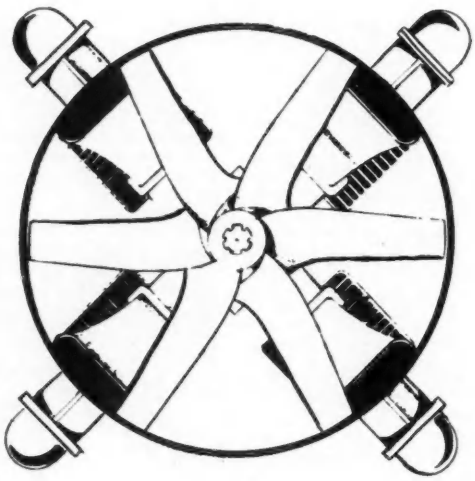
MT PREVIEWS HAIGHT HURRICANE ENGINE



DR. FERDINAND PORSCHE is said to have dismissed the question of front vs. rear engine location in automobiles by stating that the future power unit would become so compact that it could be located in the glove compartment.

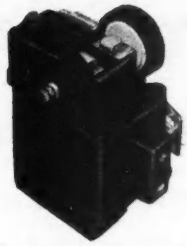
Certainly modern engineers are achieving miracles in terms of horsepower-per-cubic-inch and horsepower-per-pound, but it is possible that there are limits to current designs which may be definitive, and that radical departure may be necessary before we reach the good doctor's millenium.

J. L. Haight, Jr., of Fort Worth, Tex., feels that one way to reach for more efficiency is by direct attack upon the well-known drawbacks of the 2-cycle engine, in order to capitalize upon its one great advantage—twice the power for the same volume.

The Haight Hurricane is an experimental design for a radial, 2-cycle, air-cooled, 4-cylinder, internal combustion engine intended to operate continuously at 10,000 rpm. Dual ignition, direct fuel injection and ingenious aspiration and scavenging are intended to overcome the basic lack of fuel economy inherent in the 2-cycle concept, while the radial layout minimizes the usual 2-stroke roughness.

This engine should provide both high power output per cubic inch and excellent torque, another 2-cycle characteristic. The 10,000 rpms anticipated should not produce excessive wear if the engine is kept in the small-displacement category. The air-cooling system will be extraordinarily large to handle the double heat output and a torque converter is intended to solve the problems of high-rpm clutching.

The kind of ingenuity demonstrated in the Haight Hurricane is what brings all engineering progress. The performance of pilot models should be most interesting. —Jeff Cooper



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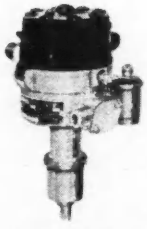

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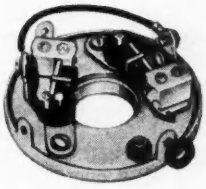

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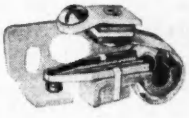

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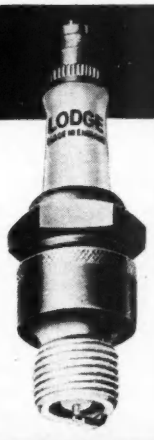

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SPOTLIGHT ON DETROIT

BIG BIRTHPLACE FOR BIG IDEAS

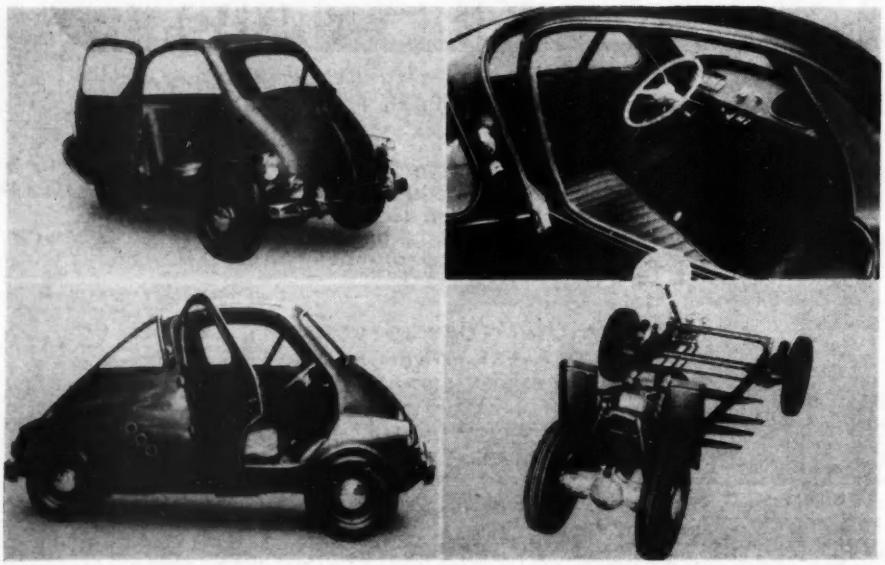
by Don MacDonald

STANDING ON THE CORNER watching the Volkswagens putt by in ever-increasing numbers makes us wonder why Detroit is seemingly so unconcerned over this substantial invasion of its bailiwick. Projected size of the German beetle epidemic this year is 60,000 units, more production than will be enjoyed by any single brand of American independent except for the $1000 used car.

WHEN AN IMPORTED CAR starts nudging one per cent of American production it becomes big business. Yet Volkswagen has violated almost every accepted theory on how to sell cars in the United States. They do little, if any, advertising. Factory-dealer relations are feudal, and this attitude is sometimes reflected back to the customer. There hasn't been a style change since the make went into civilian production. The dealer body here, while large and growing, doesn't compare in numbers or facilities with that of Studebaker and Rambler, for example.

SUCH IS THE HEALTHY EXTENT of the so-called "specialty" car market in this country and home-grown exploitation of it is frankly sick. Perhaps one reason is faulty consumer research leading to the wrong product. Perhaps another is a bad product, period. The latter reason is certainly true of the only 2 American-made minicars sold in any volume in recent years, the American Bantam and the Crosley. Both still have their loyal core of hobbyist owners, but by no excuse could they be considered a reasonable substitute for salesmen by any American maker. The only persons that have ever tried to sell us a Volkswagen have been owners who invariably acquire an excess of missionary zeal with their purchase. This all seems to prove that a really good automobile that

American Bantam (formerly Austin) proved not to be a popular money-saver

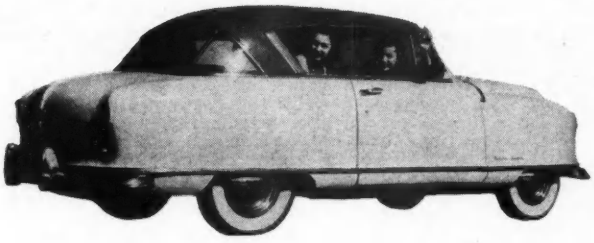


Here's a novel idea: the Hoffman, a luxury version of the minicar. It will remind many readers of the Isetta, an oddity in this country but a fairly solid seller in Europe due to the price of gasoline there. The Hoffman has 2 cylinders, a sliding roof, and is impeccably finished

fits a definite niche will take hold and sell itself to Americans.

STUDEBAKER AND AMERICAN MOTORS have consistently fiddled around on the outskirts of the specialty market, taking a plunge here and there, but always depending in the main on standardized products. The original 100-inch wheelbase Rambler started out as a shopper's special, specialized in the sense that it was primarily a candidate for the 2nd spot in your garage. Over the years, it grew and grew, until today there is little market differentiation between it and Chevrolet or Ford. Only with station wagons can Rambler claim to be specialized; they account for roughly 50 per cent of production. Rambler itself contributed 75 per cent of the American Motors total. The more orthodox big Hudsons and Nashes are losing ground rapidly.

PSEUDO SPORTS CARS, better termed sports touring cars, have become an established part of the scene, but we believe that the surface has only been scratched. Forecasts show 20,000



The earlier Nash Ramblers offered a more distinctive package than the current bigger models. Inherently more economical for day-in, day-out driving than the new version, the little car made history by including radio and heater in the list price

T-Birds will be sold in 1956. Can you imagine the market for a 4-passenger version of this car? The great majority of T-Birds are sold to 2- and 3-car families. A competitor's survey shows the market that Ford is missing: the average buyer of a Studebaker Hawk is married, father of 2 children, traded in the family sedan, and the Hawk is the only car in the family (tho it can't qualify as a sports car). This checks closely with Volkswagen ownership statistics.

CHRYSLER CORPORATION "HOT RODS," inexpensively produced for stock bodies with rearranged trim and modified engines, can be classed as specialty cars in the sports touring category. So can similar models from Chevrolet, Pontiac, Ford, and Mercury, even tho their effort is restricted to special engines and stiffer suspensions. For reasons known only to the companies concerned, which probably have to do with warranty problems, it is difficult for the average citizen to buy one of these out-and-out race cars, excepting the Dodge D-500-I. With perseverance, it can be done; if you have trouble, send your complaint, not to the manufacturer, but to either NASCAR or USAC. The main reason for the existence of these cars is stock car racing. Unless they are "stock," i.e., available to anyone, they are not eligible by either association's rules.

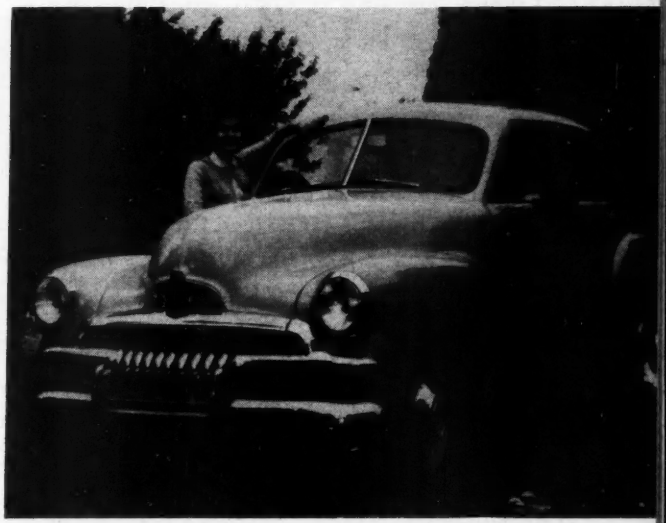
THE SPECIALTY CAR FIELD is more littered with failures than successes. Down the river are the Henry J., Willys Aero-

THE RUMOR MILL

will not appear this month, but you'll find some future facts on pages 20 and 21

car, Kaiser Traveler, Nash-Healey, Hudson Italia and Jet, and even some makes which never saw production, such as the much rumored GM baby car. Two rules, based on American production methods and tastes, hold true. One is that a small car costs, for all practical purposes, as much as a large one to produce (it's labor, not materials, that adds up), and secondly, Americans are simply not interested in austerity. Avoiding the latter is a matter of availability of ashtrays, complete weather protection, and everything else that a potential specialty car buyer already has in his well-used Ford. Plymouth, or Chevrolet. Volkswagen quality of finish is cited more than any other one thing as the key to its phenomenal success. Undoubtedly, there is possibly another factor (not readily admitted by enthusiastic owners), that involves the snob appeal of an imported product—would Volkswagens sell as well if built in America? We don't know the answer to that question until it is tried. In any case, consumer research based on previous reception to American-built small cars would not give a fair answer.

THE DETROIT COLOSSUS can go on indefinitely producing cars cut from a common mold. Executive talent of the caliber to successfully crack the specialty car market is already fully engaged in producing bread-and-butter hardtops with a chocolate icing. Even the only new venture in the offing, Ford's "E" car, is designed solely to fill the gaps in their line when superimposed on that of General Motors. The future for the specialty car does not look good until it is taken seriously. Maybe Volkswagen's one per cent will prove to be the goose that laid the golden egg.



"Australia's own car," the GM Holden, is a small but lively 6 of the type often wished for in the U.S. But when such cars come to life, they are often wallflowers

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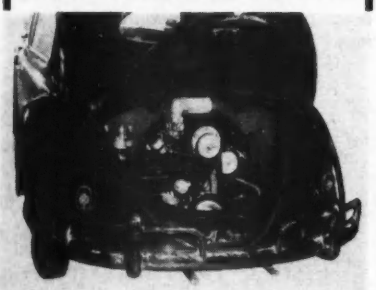

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GLOVE COMPARTMENT

by Pete Molson

NO SHIPS, NO CARS

THIS ISSUE, like last month's, has more foreign car tests and drivescriptions than you're accustomed to seeing in MT. It's not just that it's the doldrum period in Detroit, either. It's our contention that proper handling—advertising-, publicity-, and saleswise—can make the foreign car market in the U. S. a force to be counted on, year in and year out. Something that could keep European products from their rightful place was touched on by Renault's Johnnie Green in this column a couple of months ago. He said ". . . We have a standing order with the factory to send us as many cars as are available at any time that they are available . . ." Now Max Hoffman (U. S. representative for Alfa Romeo) tells us that cars are stranded on European docks, waiting for shipping space. In particular, it is tough to get space on ships to the West Coast, where the sales potential is excellent; prohibitive freight rates make it pointless to ship the cars to New York or Houston, Tex., and then freight them across the country. Shippers aren't too interested in cars, because smaller units bring them more revenue.

NOW IS NOT THE TIME

TWO MUCH-NEEDED turnpikes have been delayed indefinitely. A $25 million Garden State Parkway (New Jersey) bond issue and another $50 million New York State Thruway issue have not reached the market, where the *Wall Street Journal* reports prices and sales have been slumping.

SO BIG

DICK TRACY was still surveying GM and Ford for anti-trust violations as we went to press. GM, with some 55 per cent of U. S. auto production, is under examination on the question of whether this is too big a chunk. And Ford is charged with requiring dealers to handle only its own parts and accessories. The Senate has already passed a bill permitting dealers to sue manufacturers who don't carry out franchise agreements.

FIRE! FIRE!

WHAT WOULD you do if your car caught fire? Best precaution is to arrange to have the fire happen near a fire station, but a chemical or carbon dioxide extinguisher is next best for fires of inflammable liquids. A water or carbon tetrachloride extinguisher is top choice for an upholstery fire. Sand, a blanket, or a coat will smother a fire. If the fire's too big, *run* before the gas tank explodes. If, and only if, you're sure you have time, you might remove the gas tank cap. It's a good way to keep the gasoline from heating up enough to explode.

NEW WINDS, NEW CARS

ALONG WITH some new political concepts, Russia is experimenting with some new cars, INS reports. In testing stages is the ZIS III, latest model of the limousine that has looked like an old Packard. The new version will have an automatic transmission, power steering, and air conditioning. The Opel-based Moskvich will give way to a new 5-seater version. The minicar field is also receiving official attention in the form of the CZL, a 2-seater that comes in 2 models. The streamlined, closed one has 10 hp, the canvas-topped version only 8. The air-cooled engine is at the rear, and its top speed is 50 mph. Also on the schedule: experiments with jet-propelled and atomic-powered cars.

MEXICAN FURY

VOLKSWAGEN has put the squitch on the work of Sr. Julio Limantour, builder of the handsome Mexican VW in last month's MT, by refusing to supply him with chassis. He is now working on a Plymouth Fury chassis; the body should be ready in a few months.

DID YOU CHANGE THE CAR, DEAR?

YOUR WIFE may be asking you just that some night as you set out for a party. If you're up with the Joneses in the next few years, you may have a car covered with neutral white paint containing a photo-sensitive pigment. A controlled electro-magnetic radiation gun will let you change colors at will to suit your wife's costume, or just her mood. The paint, says D. S. Harder of Ford Motor Co., would almost be self-cleaning. It would actually expel dirt and dust from its surface when passed thru an energy field.

MOST BEAUTIFUL?

LAST MONTH we picked the Lincoln sedan as the best-looking in the industry. The Industrial Designers' Institute has now honored George W. Walker, vice president and director of styling for Ford Motor Co., plus 6 other Ford designers, for outstanding product design in the Lincoln hardtop coupe. Looks like we're in good company.

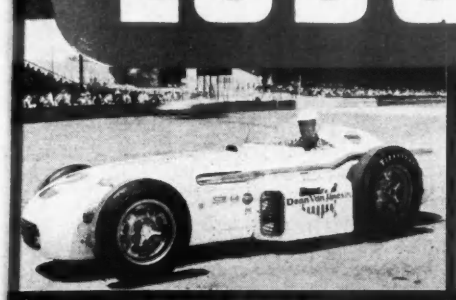
VISIBLE SIRENS

PERSONNEL OF EMERGENCY VEHICLES must often dread the ride to the scene of a fire, crime, or accident more than they do the work awaiting them after they get there. For some reason (and it has seemed to us to be getting worse for some time), there are those who just can't believe that they, too, should pull over when they hear a siren. There is now a UHF system that turns to red all the traffic lights in the path of a fire engine or ambulance. All the driver does is turn on his transmitter and flip a selector toggle, UP for north or south, DOWN for east or west. The equipment is approved by FCC, the National Safety Council, and other august outfits. It's made by Electronic Protection Inc., 2085 N. Hawthorne Ave., Melrose Park, Ill.

ENGLISH ECONOMY

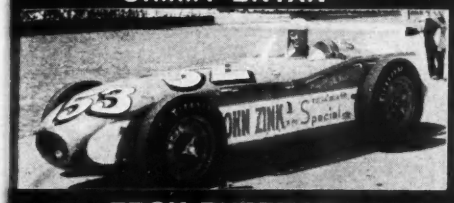
BRITAIN'S Mobilgas Economy Run is a little different from ours. Results of this year's contest were calculated on the basis of the greatest improvement shown by a car over the average fuel consumption figure of all entries in its class. Included was a speed test on the Goodwood track, and an average speed of 30 mph had to be maintained over the hilly 600-mile course. That's a lot harder over British roads than it sounds, so our congratulations to the winning Austin A-90 and its drivers H. G. W. Kendrick and Miss P. L. Wright on a handsome 29.74-miles-per-Imperial-gallon.

LODGE at Indianapolis!

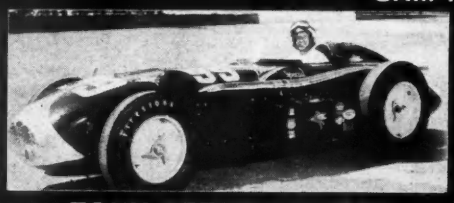


JIMMY BRYAN

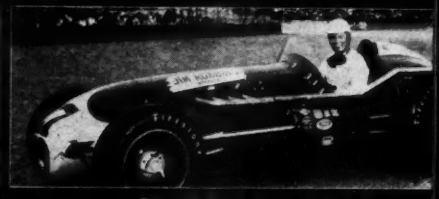
SAM HANKS



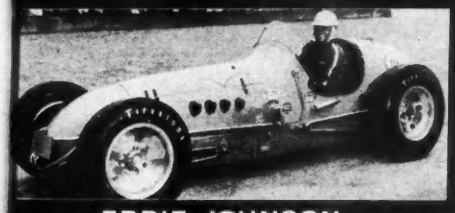
TROY RUTTMAN



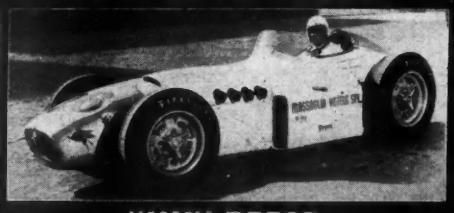
TONY BETTENHAUSEN



CLIFF GRIFFITH

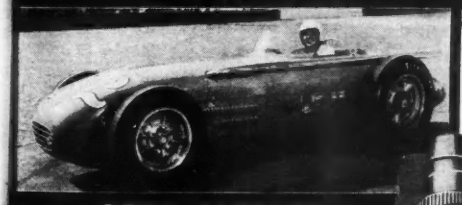


EDDIE JOHNSON



JIMMY REECE

ED ELISIAN



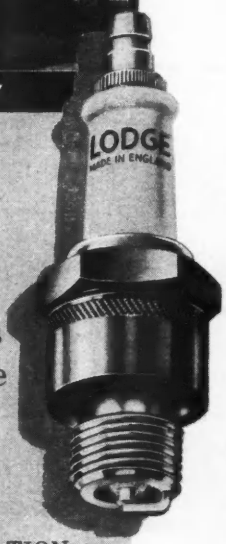
GENE HARTLEY

We are proud to announce

that Lodge plugs are also available now through the

Mallory

ELECTRIC CORPORATION, DETROIT, MICHIGAN, *and its distributors*



Congratulations to these drivers who chose LODGE Standard Racing Plugs for this year's "500." Throughout practice, the qualifying runs, and the race itself, they reported not a single misfire or plug failure of any kind... an unequalled record of reliability.

Available for every engine! Whether you drive for business, for pleasure, or in competition, you can have the same quality and dependability in spark plugs that has made LODGE the choice of international experts for over 50 years.

LODGE Improved Regular Plugs Features patented Sintox insulator, and heavy duty *chromized* corrosion-resistant points. For all automotive engines. $1.05 ea.

LODGE Platinum Pointed Plugs For maximum performance. Double the normal heat range and lasts 3 to 5 times usual life in modern high compression engines. $3.55 ea.

Also a complete line of plugs for industrial, diesel, farm, marine, aircraft and racing engines.

Ask your dealer for LODGE — the World's Finest Spark Plug.

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NOW SPOTS OVER 2300 CAUSES OF CAR TROUBLES!

JUST OUT! Includes all newest automatic transmissions

SAVE time and work on any auto repair job by being able to "put your finger" on exactly what's causing the trouble—*right from the* start! All-new, completely up-to-date and indexed TROUBLE-SHOOTER — prepared by Editors of the world-famous MOTOR Repair Manuals—lists 2300 specific causes of car and truck troubles; helps you find the one you're after FAST. BIG NEW EDITION! Contains many new diagrams, photos and cross-section pictures; explains operating principles of engine parts, ignition, etc.

If car is "burning oil," index leads you to 11 things that can be causing trouble. In the same way, you can track down noises, knocks, misses, break-downs—faulty operation from radiator to rear end. Covers engines, clutches, brakes, ignition, all newest automatic transmissions, power-steering, power brakes, etc. Spiral binding lets book stay open (flat) while you work. Gives quick practical help to beginners as well as experienced repair men!

HOW TO SPOT:
57 points to check in starting a stalled engine. 61 causes of overheating. 46 synchromesh transmission troubles. 316 different automatic transmission troubles. 24 checks for poor high speed performance and lack of power. 56 causes of engine "misses." 74 causes of engine noises. 59 checks for clutch troubles. 86 front-end suspension and steering troubles. 38 rear axle troubles. 44 causes of hydraulic brake troubles. 19 power brake troubles. 80 causes of power steering troubles. 44 checks for power top, seat and window troubles. 23 overdrive troubles, and MUCH, MUCH MORE!

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Simply mail coupon below. Pay postman only $2.00 plus postage when book is delivered. Try MOTOR'S Trouble-Shooter for 7 days. If not delighted, just return it for refund. Mail coupon NOW to:
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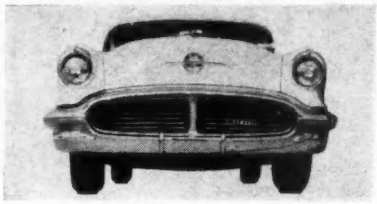
DRIVESCRIPTION '56 OLDS

HYDRA-MATIC VS. STICK SHIFT



ONCE UPON A TIME, back in April to be exact, MOTOR TREND did a full-scale road test on the Olds. An Olds Super 88 4-door hardtop with the new Jetaway Hydra-Matic, to be even more specific. We now have some road test figures on another model, the K-model or Standard Olds 88 2-door sedan, with a conventional column-shift transmission. These figures, courtesy of *Rod and Custom Magazine*, make possible an interesting comparison for opinionated fans.

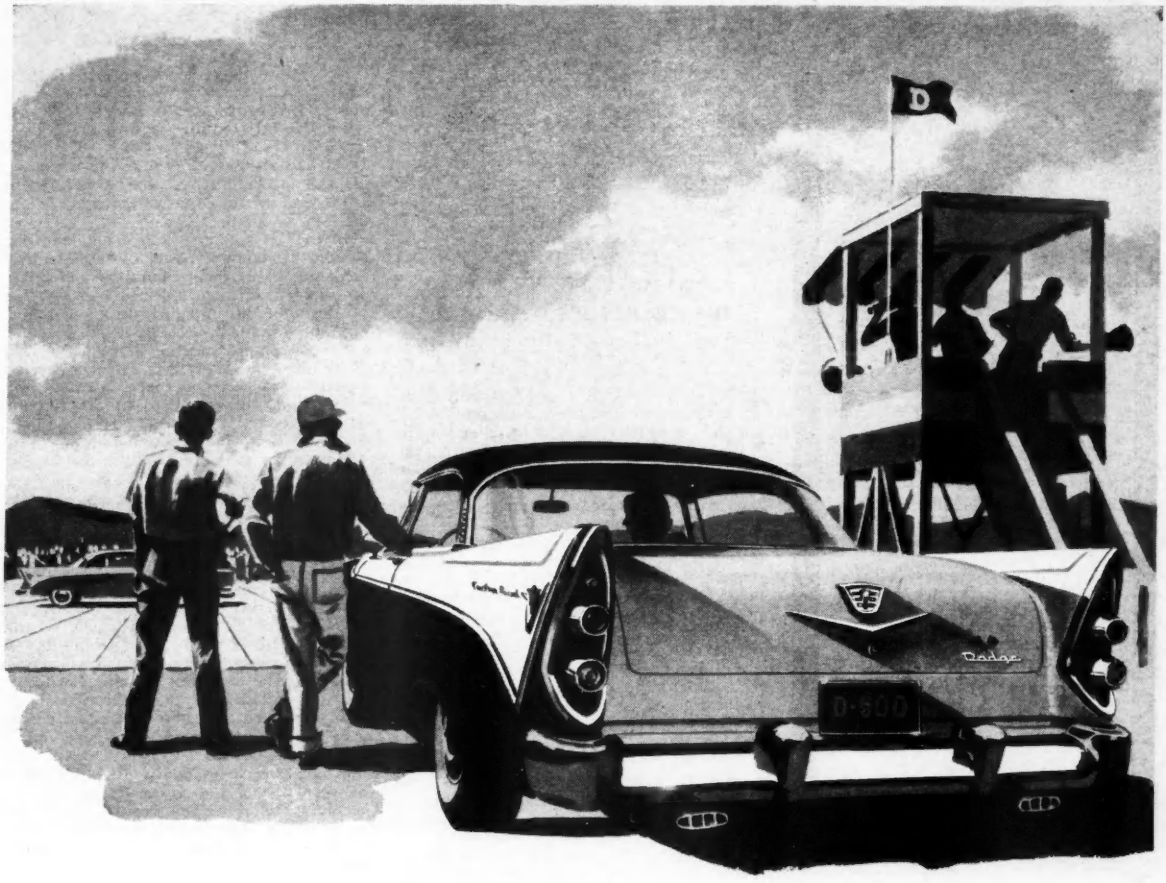
Tho the rear-axle ratios and tire sizes are different, as are the bodies, the cars are powered by identical 240-bhp "T-350" engines, and their major mechanical components are also duplicates. Everything considered, we believe these tables give a fair comparison of acceleration times and top speeds of cars equipped with conventional and automatic transmissions. Since the conventional gearbox is coupled to a higher-ratio rear end and smaller tires, you would naturally expect faster acceleration times with it. The real joker is the top speed, which is also higher.

The advantage of the column-shift gearbox is enough to warrant its selection as the better choice for the man who spends his weekends at the drags, or wants more economy from his car. We did not get fuel consumption figures on the stick-shift Olds, but we believe that there would have been a significant saving of gas with the conventional transmission. In any event, the results speak for themselves. —**Paul Sorber**

	CONVENTIONAL TRANSMISSION (Standard 88 2-door sedan)	**JETAWAY HYDRA-MATIC (Super 88 4-door hardtop)**
ACCELERATION	From Standing Start 0-30 mph 3.7 0-60 mph 9.7 Quarter-mile 16.2	From Standing Start 0-30 mph 3.7 0-60 mph 10.8 Quarter-mile 17.8
TOP SPEED	Fastest run 114.5 Slowest 112.6 Average of 4 runs 113.7	Fastest run 112.8 Slowest 110.1 Average of 4 runs 111.5
GEAR RATIOS	Transmission 1st 2.393:1, 2nd 1.526:1, 3rd 1:1 Rear Axle 3.64:1 Overall 1st 8.71:1, 2nd 5.55:1, 3rd 3.64:1	Transmission 1st 3.967:1, 2nd 2.553:1, 3rd 1.554:1, 4th 1:1 Rear Axle 3.23:1 Overall 1st 12.81:1, 2nd 8.25:1, 3rd 5.02:1, 4th 3.23:1
	Tire Size: 7.10 x 15	Tire Size: 7.60 x 15

LOW-COST SPORTSTER

Two versions of this Fiberglas body are made by Almquist Engineering, Milford, Pa. The Speedster fits 90-to-104-inch wheelbase chassis, is $495; the Sabre, $200 less, fits Crosleys, etc.



Keep your eye on the D-500 . . .

IT'S A REAL BOMB!

These days, more and more of you guys who know and love cars are "talking up" the fabulous Dodge D-500. And no wonder! *This D-500 is a real bomb!*

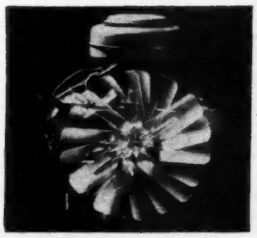
In official NASCAR acceleration tests at Daytona Beach, the Dodge D-500 licked all cars—regardless of size, price or horsepower.

This D-500 gets out of the chute like a jackrabbit. Hugs the road like a dirt track special. Hits the turns without any squeal. Handles like a gem.

Though it performs like an expensive custom job, this D-500 is actually the slickest-looking *production car* to come up Main Street. Under the hood is a 260 hp. mill rarin' to go (with big 12-inch center-plane brakes to stop it)!

You can buy a D-500 at any Dodge dealership in the country *in any body style* you like. (Costs only slightly more than $100.00 over standard models.) And it needs only *regular* Dodge service to keep it in razor-sharp condition.

So get behind the wheel and drive a D-500 today. See your Dodge dealer.



Most powerful engine in Dodge History!

260 hp. aircraft-type V-8 with 315 cubic inch displacement. 9.25 to 1 compression ratio. Bore 3.63 inches, stroke 3.80 inches. Also: 12-inch center-plane brakes with 15½ lbs. of car weight per sq. in. of lining area—a figure unequalled in American passenger cars—and one that approaches most sports cars and even racing cars.

Dodge D-500

AMERICA'S ACCELERATION CHAMPION

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- ***Plus 6—count 'em 6 feature cars in the Custom Parade***

CAR CRAFT

for October

On Sale Sept. 4

WATCH FOR THESE FEATURES:

1 **WHAT'S NEW IN THE 1957 CARS**—*A big story on the year of the big change in Detroit, covering everything from the new body styles to gadgets and gimmicks.*

2 **ENGINES COMING UP**—*Detroit's steps to even greater power for 1957.*

3 **TRANSMISSIONS COMING UP**—*One of the Big Three will have a completely new lineup in automatic gear boxes, while another in the lower-priced field plans to spring a surprise in hot transmissions.*

4 **TERRIFIC CUSTOMS**—*More than a dozen pages on some of the greatest jobs in restyling from both East and West.*

IN

MOTOR LIFE

FOR OCTOBER

On Newsstands September 6

car owner's LIBRARY

THE "GLASSER'S" MANUAL

Published by Taylor & Art, Inc., Plastics, 1710 E. 12th St., Oakland 6, Calif. $1 at newsstands or by mail, postpaid.

THIS NEW BOOK is a beginner's guide in the craft of plastic laminating—building and repairing with glass fabric and resin. With over 60 photographs and illustrations and non-technical explanations, it shows how to repair and build furniture and art objects and make household and industrial repairs with "glass."

It begins with a simple description of the materials and method recommended and then covers a wide range of typical jobs which can be performed by any amateur craftsman with professional results if he has "fair handicraft ability, some imagination and a lot of patience." To those who have been considering a venture into plastic laminating, *The "Glasser's" Manual* will provide a safe beginning, in the right direction, toward success in this new craft.

FROM VETERAN TO VINTAGE

by Kent Karslake and Laurence Pomeroy

Published by Temple Press Ltd., Bowling Green Lane, London, E.C.1, England. Available in the U.S. from Robert Bentley, Inc., 8 Ellery St., Cambridge 38, Mass., or Autobooks, 2708 Magnolia Blvd., Burbank, Calif.

THO THE TITLE BELIES IT, this book is more than just another book about old cars—it is an accurate historical book about the early days of motoring, but only to 1914. As the English classify Veteran cars, they are pre-1904. Vintage cars are pre-1931, with Edwardian cars coming between the 2, starting pre-1917. In *From Veteran to Vintage*, the 2 authors provide interesting details of the men and the machines they made, starting as early as the de Dion-Bouton of 1885 and the Benz of 1886.

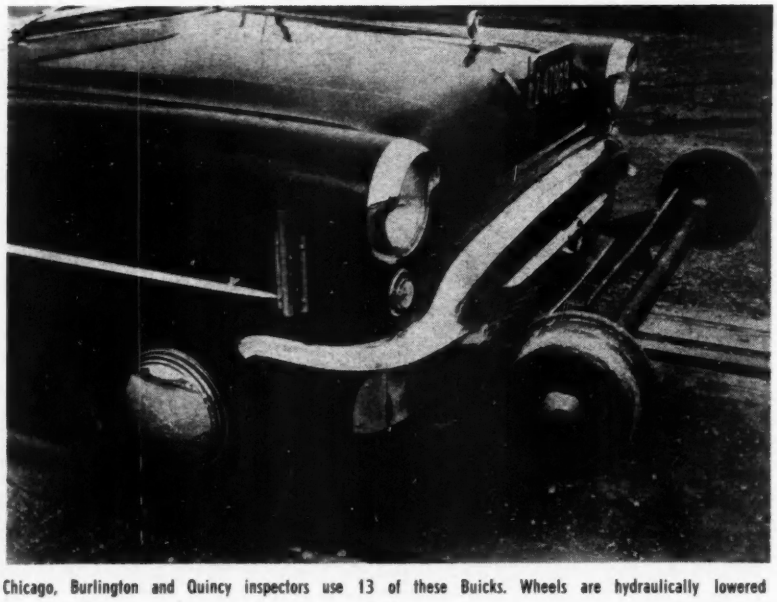
In the 1st section of the book, Laurence Pomeroy (Technical Editor of *The Motor* of England) treats the technical and economic development of motoring in its 1st 30 years. To the technically minded, the chapter dealing with Daimler, Benz, Levassor, and their historic accomplishments will be particularly interesting.

Kent Karslake recalls the great competitive events from 1896 to 1914 in the 2nd section: the very 1st races, the London-to-Brighton Run, the Thousand Miles Trial (England's own Mille Miglia), the Gordon Bennetts, and the Tourist Trophies.

In the 3rd section Karslake gives driving impressions of 25 pre-1914 cars, among them the 1895 Lutzmann (the earliest), 1897 Panhard et Levassor, 1901 de Dion-Bouton, 1902 Oldsmobile, 1905 Rolls-Royce, 1908 Grand Prix Itala, 1912 Model T Ford, 1910 Type 13 Bugatti, 1912 5-litre Bugatti, and a 1914 "Prince Henry" Vauxhall. Of the Lutzmann he says, ". . . the driver of the Lutzmann needs to be an octopus. His right hand must be constantly concerned with the steering, performed by means of a small upright handle on the end of a horizontal lever. . . . This steering lever is mounted on the top of a pillar, on the side of which is a horizontal lever by means of which either belt can be slid onto its fast pulley, or with the lever in the central position, both held on the loose ones. This lever could be very conveniently operated by the left hand, were it not for the fact that the left hand has to continuously attend to the mixture control, the throttle, the advance and retard and the hand brake."

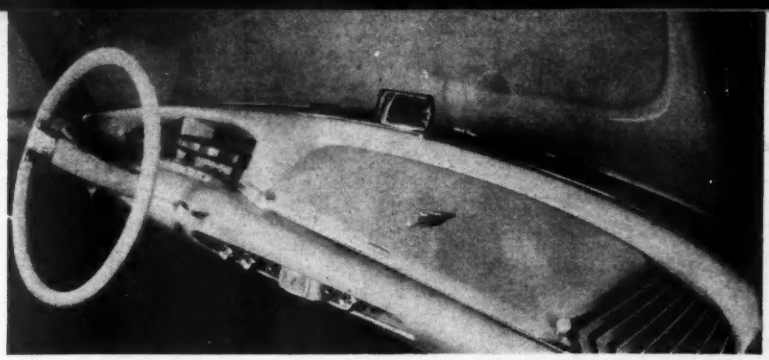
Heartily recommended for old car enthusiasts. —W.A.W.

"LIKE IT WAS ON RAILS"



Chicago, Burlington and Quincy inspectors use 13 of these Buicks. Wheels are hydraulically lowered

PLASTIC PROGRESS



The front compartment of the new Citroen (see our road test next month) contains practically nothing but plastic

WE TEND TO THINK of plastics as a post-war increment of our mechanical civilization. But, while they certainly have become more obvious in recent years, they have been around a long time and they have been a part of automobile construction since the beginning.

Way back before the closed car was with us, side curtains of "celluloid," or cellulose nitrate, were common. Bakelite was used for structural fittings as soon as its superiority to hard rubber was appreciated. And the plastic polyvinyl butyral resin, as the interlayer in safety glass, has been essential since the early '30s.

As more has been discovered about the fabrication of plastics, their use has widened extensively. Injection molding, introduced to this country in 1929 by means of the German Isomer machine, was a significant step forward. The invention of acrylic resin, known by the trade names Lucite, Plexiglas, and Perspex, began an entirely new era in ornamentation and styling. Functional nylon parts, even as small gears and instrument components, had a slower start, due in part to a refusal by some engineers to take ladies' lingerie material seriously, but they are now vital.

Car bodies made of plastic were pioneered by Henry Ford in the mid-'30s, and of course the Corvette has had a plastic body from its inception. At present, certain problems of reinforcement make entire bodies of plastic somewhat controversial, but simple forms and panels are eminently practical. While a plastic body is lighter than one of steel and is great for minor maintenance, its tendency to wear circular holes for mounting bolts into ovals and its nearly total resistance to major repair are serious drawbacks. Detachable tops, hood panels, and fender skirts are another matter.

Dies for simple, non-reinforced plastic forms may cost as little as ⅛ of those for steel. But as the form becomes more complex, die costs go up until they are about equal. It appears that while future car bodies will probably be plastic, that future is still a little way off.

The main considerations in plastic car components are variety and availability. As more progress is made in the laboratory, plastics can be produced with almost any desired physical properties—and produced out of raw materials which are going down in price, unlike metal.

The future will probably see more plastics in cars, in larger and more important components. The power train will probably include more and more plastic gears, couplings, and universal joints; while valve covers, oil pans, water jackets and so on will appear. An entire carburetor of nylon is now being tested with good results.

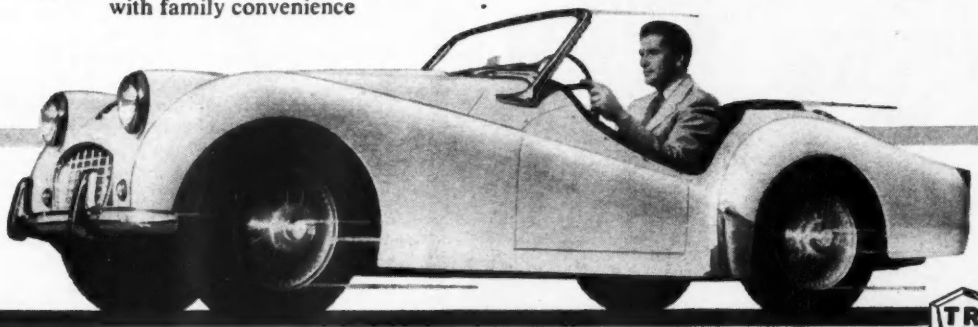
The present 15-odd pounds of plastic in your 1956 car will probably be increased about 50 times before the present trend has been completed. —Jeff Cooper

How to drive a FAST BARGAIN!

- 110 miles per hour
- 100 horsepower
- 0-50 mph in 8 seconds
- Up to 30 miles per gallon
- Combines sports car performance with family convenience

...$2599

$2599 plus tax and license at U.S. ports of entry. Wire wheels, rear seat and hard-top extra. Write for free booklet and list of dealers.



It's the New TRIUMPH TR-3

STANDARD-TRIUMPH MOTOR CO., INC.
122 EAST 42ND STREET, NEW YORK 17, N.Y.

MT
SEPTEMBER
1956

NEW CHEVY?

Guess again, for it's neither one

WHEN we 1st described the new V8 Chevrolet in December 1954 MT, we couldn't resist dubbing it "Cadilette" because of its marked similarity to the popular Cadillac design of the year before.

Chronic Cadillac owner Ruben Allender noted this when he took delivery of his 1955 Eldorado convertible. Why not, he reasoned, take a Chevy convertible, add fins, front and rear Dagmars, rearrange side trim, and thus come up with a baby Cadillac Eldorado?

Fortunately, Allender differs from other people with equally bright ideas in that he is a millionaire Detroit wholesale auto parts dealer and therefore is able to translate almost any scheme into action. It never even occurred to him to just build one car; he would produce the modified Chevrolets, to be called El Moroccos, in his own plant at the rate of 10 a day, and market them thru his own auto parts dealer organization.

There should be ready acceptance. The public is already thoroly brainwashed into the belief that Cadillacs, and particularly Eldorado fins, represent the epitome of motordom. Unfortunately, many believers can't afford the real thing; Eldorado sales do not reflect their true popularity. We can't help but agree with Allender that a Chevrolet-based miniature at $3250 complete, plus local taxes and transportation, should be a hot seller.

The beautifully adapted Fiberglas fins on the El Morocco were prototyped by Detroit's Creative Industries, a firm well known for building Ford's Atmos, Pack-

NEW BABY CADILLAC?

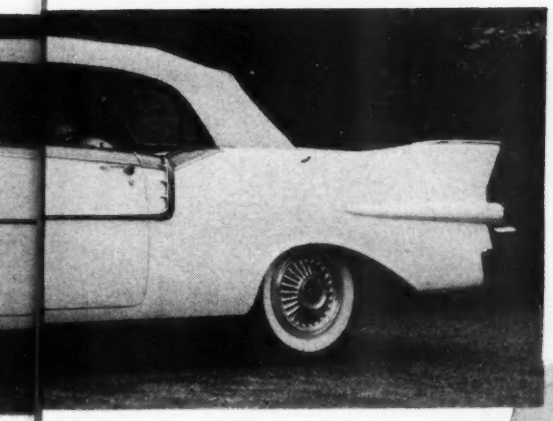
by Don MacDonald

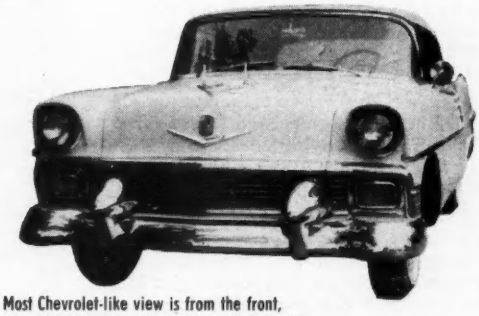
ard's Panther, and a number of other popular show cars. If anything, the El Morocco looks more chic than its sire, because it is not so big.

Creative built molds from the prototype, so production is now relatively simple. The spanking-new Chevy convertible arrives from one of several Detroit dealers with whom Allender has contractual arrangements. A large chunk of each rear fender is cut away and the laminated Fiberglas fins are bolted in place. Epoxy resin is used to bond the laminates as well as the plastic to the metal in an invisible joint. (*Continued on page 56*)

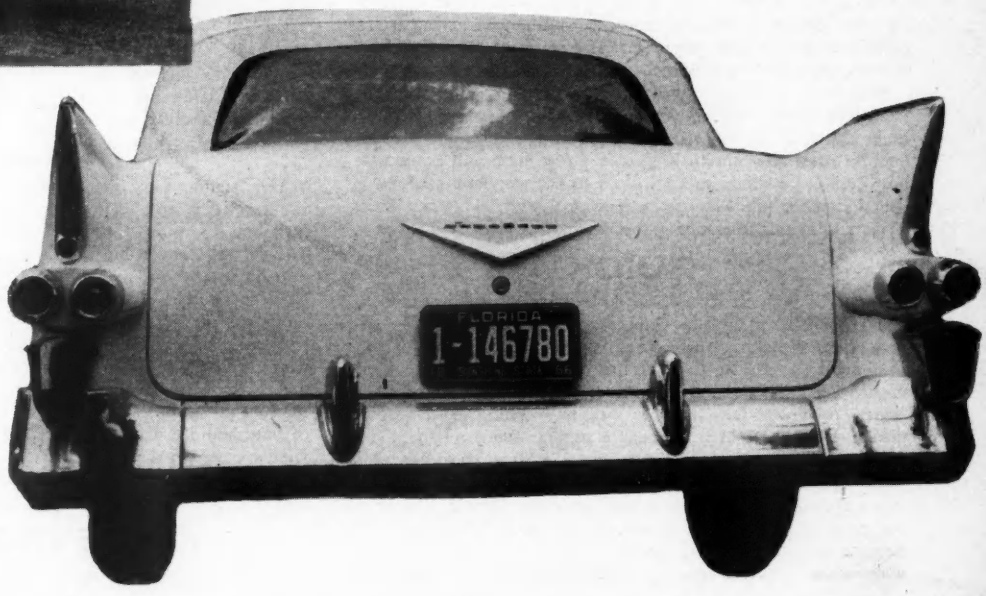
How about this pair for your garage? There would doubtless be many times when you'd prefer the handy-sized model

photos by Bob MacKenzie





Most Chevrolet-like view is from the front, where the huge bombs don't cut out the grille



From the rear, you could fool a lot of your friends with this one. Fiberglas, that wonder worker, is largely responsible for this artifact of the mid-'50s. What we are really curious about is how this car will be reported and analyzed in other lands

IF YOU WAIT FOR '57

. . . You'll find a lot of all-new bodies, a giant step here and there toward completely automated driving, and higher prices. A really shrewd buyer might decide not to wait. Here's why

DETROIT seems to be in an absolute doldrum over the fact that 1956 is likely to turn out to be the 4th best year in the history of the auto industry. Frankly, we find it hard to locate our loaner violin.

The owner of a serviceable '54 or '55 automobile has found it difficult to justify the investment in a facelifted new version of same, especially if he or she is reveling in temporary freedom from monthly payments. After all, the modern car of any make is good for 6 years or 100,000 miles with at most a couple of sets of tires, a top engine overhaul, and maybe a set of seat covers. Why give up this equity to the used-car buyer?

This type of logic makes a sales manager pale; the industry is trying hard to switch over to a 2-, or preferably 1-year economy. In effect, they hope that you will continue to "lease" a car for the rest of your buying days. Sales campaigns are predicated on effecting a trade with no down payment other than your equity in your present car, plus no increase other than length in your monthly payments. This is renting in the true sense of the word, and a goodly number of you seem to be consciously or unconsciously resisting the pitch.

Close to a billion dollars will be spent on tooling up for all-new 1957 models. By "all-new" as distinguished from a "facelift," however major, we mean a change in the basic body shell. All '57s except Lincoln, Continental, Rambler, Chevrolet, Pontiac, Packard, and Studebaker (with separate reasons for the latter 2) will fit this definition of all-new.

However, due to the firmly established "evolutionary" concept of styling and engineering changes, you won't find your 1956 model suddenly obsoleted. In fact, you should give long and serious consideration to the economics of purchasing a new car in the Indian summer of the current selling season.

Prices on 1957 models will be raised an average of 5 per cent. Added to the discount from '56 list prices that you can get now from struggling dealers, this means a substantial saving for a product that will take you as far, as fast, in as much comfort, as next year's version of same.

If a $500 to $2000 differential is worth exciting new, but essentially similar, styling; more power than what you already can't use; 14-inch wheels; less headroom and longer overall length; a few new gimmicks that will cost extra and a few that now cost extra slated to be shifted to the standard equipment list; and more subdued colors, then go ahead and wait. We'll try to guide your hesitancy with our chart of what will be new.

BUICK

Both "B" body shells, as used on Special and Century models, and "C" shells as used on Super and Roadmaster, will be all-new but of orthodox construction. Styling, tho substantially lower and longer, will be characteristically Buick with fluted hood motif, portholes, and square outline. Horsepower is slated to be increased substantially in all lines by refining basic engine design. Drastic mechanical changes such as frame-mounted differential, disc brakes, and air suspension were considered but postponed. Front suspension will switch to simpler ball-joint type; Dynaflow will be smoothed out even further, almost to the point of diminishing returns. High-priced Roadmaster will become more firmly established on its own snobby pedestal in a deliberate effort to steal more sales from Cadillac. Most startling new body model—a 4-door hardtop Estate Wagon on Special and Century chassis.

CADILLAC

The "standard" of many ambitious Americans will continue to offer the relatively low-priced Series 62 in the usual body variations, the now-conservative 60 Special, and the Eldorado in hardtop and convertible form. In addition, Cadillac will have a sure monopoly on the limousine business, and later (close to New Year's Eve) take aim at Continental with the long-heralded brougham in the $9500 price class. Fins will be more pronounced than ever, but despite an all-new set of bodies, you won't be likely to mistake the marque. Engineering innovations such as air suspension will be confined to the brougham, except for fuel injection standard on the Eldorado engine. Horsepower of this should lead the industry, nudging 400. Compound-curve windshields and swivel bucket seat were considered but rejected. Front suspension on regular models will be new GM ball-joint type. No station wagons contemplated.

CHEVROLET

The country's sales leader plans to rest to some extent upon

its laurels in 1957, saving its big gun (unit construction) for the following year. Look for a major facelift, 2 varieties of increased-displacement V8s as well as a modernized 6, all current transmission options plus a new Dynaflow-like Powerglide tied to the biggest V8, and for that baseball team of yours, a 4-door hardtop wagon. Corvette is not to be changed at the time of the regular model announcement.

CHRYSLER

In an unprecedented tooling upheaval for a company that has been garnering only 16 per cent of industry sales, all Chrysler lines will be completely restyled for the 2nd time in 4 years. Chrysler Division products will be the lowest-looking big cars on the market. Front suspension will be torsion bar of a type common in Europe but new to America. The potent 300-B was slated for a body all its own, but these plans were shelved at the last minute. Imperials will be further distinguished from regular Chryslers; the money-losing limousine will be dropped.

CLIPPER

This short-lived (at least under its own name) car will be dropped, regardless of who is running the Studebaker-Packard Corp. at announcement time.

CONTINENTAL

The revival of the American classic has had tough sledding this year. Sales have been disappointing, but this has no bearing on the almost imperceptible styling change slated for '57. You just don't arbitrarily facelift a classic, except perhaps for adding dual headlights. Further sales difficulty might lead to installation of a fuel injection kit on the Lincoln engine.

DE SOTO

Some who have seen it say that De Soto is once again the style leader of the Chrysler '57 entourage. It will feature much power, torsion-bar front suspension, and don't expect the same mistake of limiting the production of the Adventurer. A 3-speed version of Chrysler's pushbutton Powerflite will be standard.

DODGE

Dodge will continue to try to be all things to all people with models ranging from the 6-cylinder Royal to a new version of the popular D-500. A torsion-bar front end will be featured as in all Chrysler products, along with 4 transmission options. New "Flight-Sweep" styling will make car a concours contender.

FORD

For those who want something "all-new" in the low-price field, the choice will be limited to Ford and Plymouth in 1957. Drastically lower and longer, with different lengths for Customlines and Fairlanes, the Ford will still look like a Ford, but at least cousin Thunderbird won't have to stand on tiptoe to kiss it. Big engine will probably top low-price-field horsepower race. Safety features will all be there (as they are in every other make) but pitch which brought an MT award will be de-emphasized. New chassis will feature excellent ball-joint front suspension similar to past versions. Six-cylinder car will be available but only half-heartedly. Plans for a 4-passenger T-Bird unfortunately but temporarily shelved.

HUDSON

Next year will be the last for big Hudsons (and Nashes) to prove that they are worth American Motors' while to manufacture. Utilizing stretched-out tooling from the Rambler, these cars will be big and smart. Use of the Packard engine will cease, as will the 6-cylinder Wasp. One wheelbase, one engine—the new American Motors V8 with Hydra-Matic optional.

LINCOLN

The Lincoln, all-new in 1956, will receive a major facelift. Tail fins and enclosed lights are to be canted outward, and the odd-looking triangular blank in the rear quarter window will be eliminated. Headlights are to be conventional, but integral 5-inch fogs make it look like a dual installation, could easily be switched when legal problems ease. Body styles will be augmented by a 4-door hardtop. Will be one of 1st to bow.

MERCURY

Take a look at this year's show car, the Turnpike Cruiser, and you will see what is essentially the 1957 Mercury. By all odds, it will be the most radical of next year's crop of cars. Body tooling will not be shared with Ford as in the past. Pushbutton version of Mercomatic will be a feature.

NASH

As in Hudson, new body will be an elongated version of the Rambler. Statesman and other 6-cylinder engines not slated for further production. New V8 with much-upped horsepower will be used on one wheelbase. Body lineup will feature 4-door hardtop. Headlights will be moved back to fenders.

OLDSMOBILE

This make, barely holding its own in 5th sales place this year, with benefit from GM's new "B" body shell, used thruout the line. Engineering innovations will be emphasized with possible use of a central hydraulic system and Hydra-Matic controlled from a set of typewriter-like keys. Front suspension will be switched to ball-joint. Olds plans to re-enter the station wagon field, featuring a 4-door hardtop wagon similar to Buick's.

PACKARD

Plans for this car are contingent on new management, so introduction will inevitably be late. Original tooling plans were cancelled when financial problems became evident. Most likely course: a minor facelift before the New Year, a major change utilizing plastic dies later in the spring.

PONTIAC

Most troubled of all GM divisions by falling '56 sales, Pontiac must still content itself with a major facelift in '57, as it shares the "A" body shell with Chevrolet. Engineering changes can be classified as refinements.

PLYMOUTH

The likely star of the low-price field, Plymouth will blossom out with all-new styling, torsion-bar front end, and much V8 power. Chrysler's new 3-speed Powerflite probably won't be available in the beginning. Other transmission options, as well as the 6-cylinder engine, will continue. Look for a hardtop wagon and increased sales emphasis on the Fury.

RAMBLER

Next year will see Rambler on its own as a name on your registration certificate. Styling changes will be minor (mainly moving the headlights out to the fenders and some de-emphasis of the controversial "basket handle" across the roof), but those who prefer performance to economy will have the option of a scaled-down version of A-M's new V8.

STUDEBAKER

Another company that is marking time, pending the decisions of new management. Present plans call for a minor facelift, more emphasis on Hawk series. Packard engine may become available in big sedan, but not Packard torsion bars.

BE A COOL CUSTOMER

The hottest driving days are still ahead. Why not enjoy them?

by Jim Potter

COOL, COMFORTABLE traveling in today's automobiles is gradually emerging from the luxury category into a safe and sane option that may become a "must" by popular demand in tomorrow's cars of all price ranges.

Altho only 4 per cent of American cars are equipped with air conditioning today, a survey taken more than a year ago indicates that 25 per cent of car owners want it in their new cars. Past history of other automotive advancements indicates that what motorists want, they eventually buy. Automatic transmissions, power brakes, power steering, and power window lifts are all cases in point. The demand for these accessories is steadily on the rise, indicating buying patterns that can be followed with a reasonable degree of accuracy as far as air-conditioning equipment for cars is concerned.

This equipment can now be purchased thru the car manufacturers for nearly every make car, but we are concerned here with only those units that are installed *after* the car is purchased and are not marketed by car manufacturers. Air-conditioning kits that are now on the market can be installed in practically any car, regardless of make or year. In addition, most units (by means of only minor modifications) can be transferred from one car to another, enabling the car owner to retain this comparatively expensive accessory when trading the car in on a new model.

All *refrigerating* air-conditioning kits now available (see chart) consist of a compressor, condenser, evaporator, blower system, connecting lines, and control valves. Details of the different systems vary slightly, but an automobile air conditioner functions on the same principle as most refrigerators, except that cooled air is forced into the area to be cooled. A non-toxic refrigerant, Freon-12, is circulated by means of a 2- or 4-cylinder compressor motor thru a system of pipes and tubes where it is alternately compressed and condensed, then expanded and evaporated. Compression and expansion causes the Freon to dispel heat and then absorb heat (cooling the air).

The cycle that causes cooling operates this way: the Freon-12 comes to the compressor from the evaporator coils as a warm, low-pressure gas, or vapor; there it is compressed and sent thru to the condenser coils, which are placed in the air stream in front of the radiator. Cooled to a liquid but still at high pressure, it is then metered thru an expansion valve where the pressure is relieved. Onward it goes to the evaporator coils, located under the dash, in the trunk, or overhead (in station wagons), depending on the type of car and equipment used. Here, the low-temperature liquid refrigerant receives heat from the warm air within the car and once again becomes a vapor. The Freon is then drawn into the compressor again as a hot, low-pressure gas, completing the cycle. Meanwhile, blower fans in the evaporator, or cooling case, circulate the cooled air thru the car.

The units offered by independent air conditioning manufacturers are remarkably similar in certain aspects: they all are dehumidifiers (i.e., they remove moisture from the warm air inside the car); and all have an electrically actuated clutch which is either manually or automatically operated by the thermostat to engage or disengage the belt-driven compressor. This allows the pump to free-wheel as long as the temperature is satisfactory, thus reducing the power requirement of the engine. Obviously, this makes sense.

Location of the evaporator is a major difference in installations altho most manufacturers of the equipment offer all choices to the car owner. Advantages of the under-dash type of installation include immediate comfort for the front seat, where cooling is most often required (most cars infrequently carry passengers in the rear seat). Another argument for the front-mounted unit is that this installation eliminates the need for long tubing or lines from the compressor unit. However, a claimed advantage of the trunk compartment installation is that the cooling air, released thru ducts on the package shelf behind the rear seat, becomes more uniform thruout the entire car, eliminating direct drafts on the occupants in the front seat. An MT Research first-hand report on how one unit operates and its effectiveness as a cooling device is given on page 24, this issue.

Operation of air-conditioning equipment in an automobile does drain a small amount of horsepower from the engine and thus the car will get slightly less gas mileage. This ranges on one unit, for example, from a minimum of ½ horsepower at 10 miles per hour to a possible maximum of

name and manufacturer
Allstate automobile air conditioner; Sears, Roebuck & Co., Executive Offices, Chicago 7
A.R.A. President; A.R.A. Mfg. Co., 1041 Foch St., Fort Worth, Tex.
A.R.A. President-Lincoln; same as above
A.R.A. Executive; same as above
A.R.A. Direct-Aire; same as above
A.R.A. Light Truck; same as above
A.R.A. Overhead Station Wagon; same as above
A.R.A. Ford Thunderbird; same as above
A.R.A. Eldorado; same as above
Arctic Trunk Model Unit; Arctic Automotive Air Conditioning, 2003 N. Oracle Rd., Tucson, Ariz.
Arctic Underdash Model Unit; same as above
Arctic Overhead Model Unit; same as above
Frigikar; Frigikar Automotive Air Conditioning, 1602 Cochran St., Dallas, Tex.
Frigiking; same as above
Frigikab; same as above
B-300 Deluxe Lo-Merc; Lo-Merc Corp., 2402 Houston Ave., Houston, Tex.
TB-100 Lo-Merc; same as above
Mobilette; Mobil-Aire Mfg. Co., Box 122, Denison, Tex.
Novi Deluxe; Novi Sales and Service Co., Inc., Novi, Mich.
Novi Front-End Unit; same as above
Weather-Matic; same as above

nearly 7 hp at 70 mph. The average power used is a mere 3 to 4 hp, and in a car with, say, 240 hp, this loss could hardly be considered a problem.

The worth of refrigerated air-conditioning equipment is attested to by operators of long-distance trucks in the Southwest and by companies who have large fleets of salesmen's cars on the road. The truck operators claim that time-consuming stops for refreshing the drivers are no longer necessary.

With the hottest time of the year now upon us in many parts of the country, the claims of the air conditioning manufacturers appeal particularly to car owners who want cool comfort on long trips and who want to arrive at their destination with dresses and suits that don't look like they've gone thru a wringer on humid, hot days. With temperatures hovering above 100° F, closed window driving eliminates wind noises, dust, odors (and pollen), and means lots more fun while driving.

continued

where available	location of unit	location of outlets	makes of cars	list price	installation charge	total list price	special features
most Sears, Roebuck & Co. stores in South and Southwestern U.S.	under dash	2 adjustable outlets under dash	all GM models, (Chevrolet '53-'56), '54-'56 Ford V8 & Mercury, Plymouth V8	$300	$ 45	$345	mutually operated magnetic clutch
A.R.A. Sales & Service, 1041 Foch St., Fort Worth, Tex. and distributors in principal cities	trunk	2 plastic ducts on rear package shelf	all '54-'56 cars except Hudson, Nash; Rambler & Studebaker, '56 Lincoln	420	60	480	modulating valve control gives gradvated control of temperature from cold to cool
same as above	trunk	same as above	'56 Lincoln only	395	60	455	has 2-cylinder compressor instead of 4-cylinder unit in other passenger car models; also has modulating valve
same as above	trunk	same as above	all '54-'56 cars except Hudson, Nash, Rambler, Studebaker, & '56 Lincoln	365	50	415	can be operated manually or automatically by Clutch-O Matic switch
same as above	under dash	mesh-type grille under dash	all cars except those above and Packard	308	45	353	same as above
same as above	under dash	same as above	'54-'55 Ford V8 trucks only	290	45	335	same as above, has 2-cylinder compressor instead of 4-cylinder unit
same as above	overhead in contour of top	overhead	most '54-'56 cars	470	75	545	has modulating valve, magnetic clutch with 2-position ON-OFF switch
same as above	in compartment behind driver	2 plastic outlets at case	'55-'56 Ford Thunderbird	480	65	545	same as above
same as above			'55-'56 Cadillac Eldorado convertible	495	100	595	same as above
auto dealers, service stations, and auto parts supply houses	trunk	not listed	most passenger cars	—	—	495	has manually operated electric clutch
same as above	under dash	not listed	most passenger cars	—	—	380	same as above
same as above	overhead in contour of top	overhead	station wagons	—	—	595 up	same as above
distributed by South Texas Distributing Co., 1605 Washington Ave., Houston 10, Tex.	trunk	2 plastic ducts on rear package shelf	Buick, Cadillac, Chevrolet, Chrysler, DeSoto, Dodge, Ford, Lincoln, Mercury, Olds, Packard, Plymouth, Studebaker	—	—	varies according to locale	has automatic magnetic clutch which disengages compressor when pre-set cooling level is reached, or when air conditioning not needed
same as above	under dash	2 adjustable outlets plus 2 stationary outlets under dash	same as above	—	—	Same as above	same as above
same as above	under dash	same as above	trucks (cabs), buses	—	—	same as above	same as above
distributors in San Bernardino, Calif.; Tucson & Phoenix, Ariz.; Chicago; Memphis, Tenn.; Lake Charles, La.	under dash	mesh screen type under dash	all popular makes of cars	—	—	—	has pushbutton control for electric clutch and fan speed
same as above	under dash	same as above	'55-'56 Ford Thunderbird	—	—	390	same as above
distributed thru auto dealers, service stations, auto parts houses in South and Southwestern U.S.	under dash	2 adjustable outlets under dash	most passenger cars, station wagons, trucks, buses	—	—	360 (avg.)	has 2-cylinder compressor, magnetically operated Warner magnetic clutch
85 factory-owned branches	trunk	2 plastic tubes or louver on rear package shelf	all '54-'56 Ford and GM cars, '55-'56 Chrysler and Packard, '56 DeSoto	—	—	389	full year warranty, labor and parts; mechanical modulating valve
same as above	under dash	grille at top of unit	'55-'56 Buick, Chevrolet, Dodge, Ford, Mercury, Oldsmobile, Plymouth, Pontiac	—	—	319	same as above
same as above	trunk	2 plastic ducts on package shelf	passenger cars	—	—	450 (avg.)	same as above

BE A COOL CUSTOMER

continued

HOW TO TEST AN AIR CONDITIONER

THESE TESTS were devised to satisfy 2 purposes: to adequately test the performance of this unit and, more important, to give you an idea of a procedure that you may follow in selecting an air conditioner for your car. We strongly suggest that you receive a demonstration by the dealer, in a car and not in a showroom, or even better, borrow a demonstrator and perform a few tests of the type we did. Spending 2 hours or less in discovering if the unit suits your needs is most desirable, considering the expense involved in the purchase. You can only sit around and mope if you don't like the unit you've bought, and a few hundred dollars can buy a lot of moping.

We commenced the test at 11:00 A.M. on a mid-July morning in the desert near Palm Springs, Calif. The air temperature, in the shade, was a mere 99° F. The sun, beating thru the windows of the test sedan, had heated the air inside to 104. This figure was taken as the starting point for our 1st 2 tests, and was allowed to rise much higher (to 113 for the rest of the tests) later in the day. Fresh air was admitted for each test by opening all the doors and then sealing the car till it warmed to the starting temperature. Temperature readings were taken at 6 points within the car, but they varied less than 2° and so we will confine our comparisons to the figures taken at the top center of the back of the front seat. Another unit might show a considerable variation in different locations in the car.

The Wizard, sold by Western Auto Supply Co. stores, was selected as a fairly representative air-conditioning unit, with the hope that our tests would give you an idea of what you should expect from a similar unit. The Wizard cooling case is an under-dash unit containing all the following: a 5-bladed, 7-inch fan and its 60-watt motor; the cooling coils in which the refrigerant, Freon-12, absorbs the heat from the circulating air; a pan and drain to collect and dispose of water condensed from humid air; the thermostat, and the control switches. The fan switch has HIGH-OFF-LOW positions, and the cooling switch has AUTOMATIC-OFF-MANUAL positions. Both switches must be placed in the center position to shut off the system, tho the fan may be run alone for circulating uncooled air. This case measures 14.75 x 14.0 x 7.75 inches in length, depth and height, which permits a compact and convenient installation.

The pump is a new V4 belt-driven type, Lehigh Model V-93, that is superbly small, smooth, efficient and of greater capacity than most 2-cylinder types. A magnetic clutch allows the pump to free-wheel when the thermostat realizes that air temperature has reached a specific temperature which is adjustable between 65° and 75°. The thermostat on our unit was set to mid-range, or about 70°. The clutching feature eliminates the 2- to 4-horsepower drain of the pump except when it is actually in use, compressing refrigerant. The condenser, mounting in front of the radiator, is 24 inches long, 16 wide, and only one inch thick.

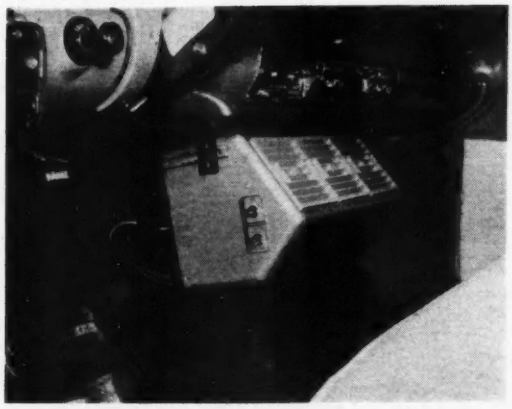
Our 1st 2 tests were devised to test the ability of the unit when the car was parked in the sun, with the engine idling. This serves a 4-fold purpose, in determining:

1) The possibility of pre-cooling the car before you get in (after it has been parked in the open);

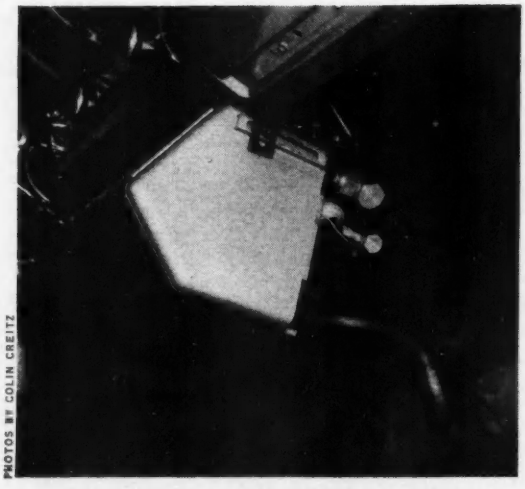
2) The potential "holding (*Continued on page 73*)

PHOTOS BY KARPINSKY

Husky Lehigh V4 refrigerating compressor mounts on the engine and derives its power thru the fan belt. Condenser fits in front of radiator



This under-dash installation is typical and shows restricted legroom. Control switches are conveniently placed, louvers in "up" position



PHOTOS BY COLIN CREITZ

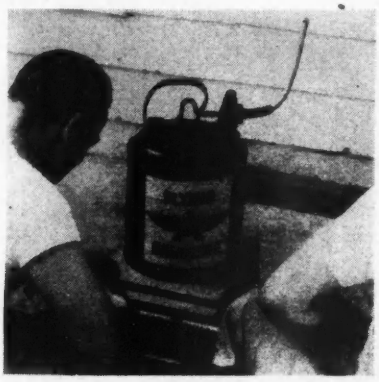
Closeup of installation shows mounting brackets, numerous hose connections, and drain tube to dispose of water condensed from atmosphere

26 BUCKS ACROSS THE U.S.

PHOTOS BY KARPINSKY

by Don MacDonald

Driving like this in a car like this could even save enough to pay for a new Rambler wagon



Multiplying the net weight of the gas by the volume per unit weight gave an accurate volume with safety

Both the gasoline tank and the engine were sealed and frequently inspected by NASCAR's Jack Senn

WE UNDERSTAND that a move is on foot to project the Mobilgas Economy Run eastward as far as Detroit, which is a step in the right direction. But why not all the way to New York? Studebaker has felt this way in the past (MT, Oct. '54) but never got beyond the slide rule stage, estimating that their winning 1954 model Champion could go the distance on 100 gallons of gasoline.

At long last, American Motors took over this obvious gap in the heavily populated field of records, and we were lucky enough to be aboard the caravan. With NASCAR's Jack Senn riding the car as an observer, a completely stock Rambler station wagon made the trip from Los Angeles to New York City in 6½ days, chalking up a remarkable 32.09 miles per gallon ($26.17 worth at retail) while maintaining an average speed of 40.35 miles per hour for the 2961-mile trip. It works out to about 9/10 of a cent per mile for 92.27 gallons of regular grade Flying "A" (Tidewater Oil Co.) gasoline.

The route, passing thru Tucson, Amarillo, Oklahoma City, St. Louis, Indianapolis, and Columbus before joining the Pennsylvania Turnpike near Harrisburg, included most types of terrain and traffic conditions. We privately felt that drivers Les Viland and Carl Chakmakian penalized themselves unnecessarily by not making more use of the turnpike system which now extends unbroken eastward to Indiana.

The record car was equipped with optional overdrive and a 4.1 to 1 rear axle. About 30 per cent of economy-minded Rambler buyers specify this option. It was driven with the same techniques that have previously proved successful for this team.

The key is an ever-constant throttle, something that sounds easy but in reality requires far above average patience and ability to anticipate what the other fellow will do. In the mountains, maximum advantage was taken of the "free-wheeling" feature inherent in the overdrive transmission. The ignition was never cut except during prolonged red lights or waits at railroad crossings.

Just as in a race of speed, it is the little things that count in an economy run. A missed shift, neglecting to by-pass a city, getting caught (as the Rambler did) in the efflux from a Billy Graham revival meeting—these and 100 similar situations can, and do, eat into the average.

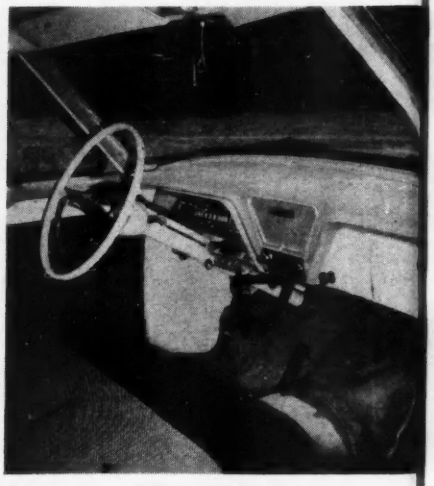
Besides the record car, the caravan consisted of 2 other Rambler wagons, identical except for being equipped with Hydra-Matic and air conditioning. One ranged on ahead, setting up refueling stops and contacting dealers along the route. Driven the way a salesman would when in a hurry, the car averaged about 20 mpg.

The other car brought up the rear with a heavy load of luggage and Jerry-canned fuel (Flying "A" was not marketed in many areas on the route). Constantly losing position and hurrying to catch up, it averaged only 22 mpg.

Driving any car for maximum economy is fun (for a while) if you want to make a game of it. It is also hard work, at least until some well-established habit patterns are rubbed out. After this run, we concluded that an extra tank in 2900 miles might be worth its price in relaxation.

photos by Bob D'Olive

Beautifully finished interior of Magnette is carried to extreme with an easily scuffed wooden dash



Very attractive, yet more practical, interior of the Simca has quick column shift, room for 3 in front

THE NEW IMPORTS

SOMETHING DIFFERENT FOR YOUR $2500

France and England present a divergent approach toward the same goal: a 2nd car

by Don Francisco

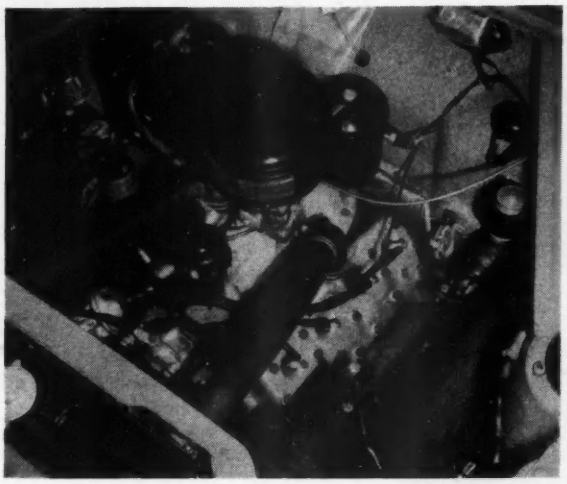
HAVE YOU EVER tried to compare a day in the snow with a day at the beach, or fried chicken with broiled steak, or diamonds with government bonds? If you have you will appreciate the problem we faced on a recent road test involving 2 small foreign sedans with supposedly similar characteristics. The cars were chosen for the comparative test because they are in the same price bracket ($2500) but we soon found their only similarities to be that they each had an engine, 4 doors, and 4 wheels.

One of the cars was an MG Magnette, a product of England, and the other was a Simca Vedette Versailles, built in France but with definite American styling and engineering features. The Magnette is the latest version—introduced in '54—of a

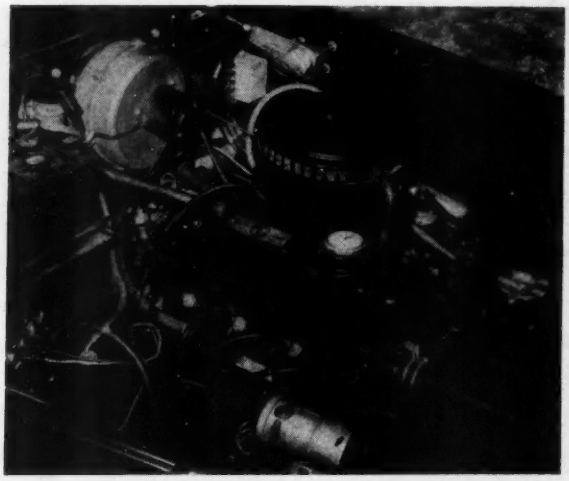
model MG has been building for years, and the Versailles is the in-between model of the Vedette series that was 1st introduced in October of 1954 by Ford S.A.F. of France, the French holdings of the Ford Motor Co. In November of 1954 Simca acquired the interests of Ford S.A.F. by means of a merger. Included in the deal were the new Vedette series, styled and engineered from plans supplied by the Ford Motor Co. of Dearborn, Mich., and technical assistance of Dearborn on the Vedette project until May of 1956. The lowest-priced model of the Vedette series is the "Trianon," at just under $2300, and the highest priced, excluding the station wagon in the $3100 bracket, is the "Regence" at $3000.

First impressions of anything—horses, women, cars—can be tricky things. They seem to be overly influenced by prejudices, past performances, and hearsay. Our 1st

Difference in French and English attitudes toward automobile design is graphically shown by the contrast in styling between the Simca's integrated grille and the Magnette's traditional radiator and false cap



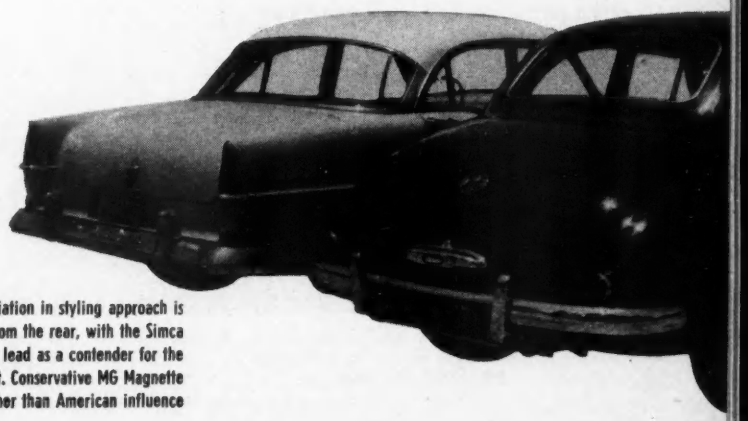
Simca V8 installation allow convenient access to majority of engine components, simplifying repairs and adjustments. Resemblance to Ford V8-60 is obvious



Long-stroke overhead valve 4-cylinder engine of the Magnette is a near-duplicate of the model installed in the MG-A. Dual carburetors are standard equipment

impression of the 2 cars was that the Simca was exciting, the Magnette just a trifle dull. The pleasing exhaust note and the instant throttle response of the junior V8 in the Simca, in contrast to the energetic and willing but not quite convincing sounds tumbling from the exhaust pipe and engine compartment of the Magnette, didn't dampen the pleasing jolt of the Simca's 1st impression a bit. The sound of the little 4-banger engines of the type used in the Magnette and in so many other small foreign cars made us think of a small boy trying to fill his daddy's job at the plant. But sentence without a trial isn't the fair way, tho too often it is the way of human nature.

The Magnette has the traditional styling and look and (*Continued on page 46*)



Wide variation in styling approach is also apparent from the rear, with the Simca perhaps in the lead as a contender for the dollar market. Conservative MG Magnette shows Italian rather than American influence

THE NEW IMPORTS

RETORT TO THE VW: RENAULT DAUPHINE

Here's a carefully studied answer to the quest for a dollar-saving, all-around sedan

by Pete Molson

WHEN MOTOR TREND compared the latest VW with the '56 Renault 4-CV back in May, we knew the Dauphine was on its way. We couldn't know, tho, what a very serious bid the nationalized French factory was making for a cut of the VW's sales until we got our hands on the car itself. We have now had one in our possession for a month, and have gotten to know it intimately. It is a relationship that has improved with the passage of time driving and riding in it.

The Dauphine, or 5-CV, will inevitably be compared with both its smaller sister and with the VW, so let's begin there. Comfort is the big advantage over the 4-CV (still being built). There's more room in the front in every direction, for your feet, your hips, your shoulders, your head. No cornerpost blind spot keeps you ducking to see around it, as in the VW, and even the mirror is out of the way.

The rear seat has benefited too. Headroom here is still severely limited on the sides, but otherwise the seat has the room of a larger car. With either front seat all the way back, rear legroom is still adequate. The 4 doors are an undoubted advantage over the VW.

The noise level has dropped astonishingly; the test car's engine was inaudible and vibration-free when idling, and never gave itself up to the exasperating buzz that can distinguish the smaller Renault. Highway driving at about 60 can be unpleasant if vibration is disturbing to you; it bothered our passenger on a 240-mile trip but caused us no discomfort (we were having too much fun).

The all-independently-sprung ride is excellent when one considers the size of the car and its weight (1360 pounds). Oversteer will always be a problem in cars with weight distributed in this manner: the test car carried nearly 61 per cent of its weight on the rear wheels (without driver or passenger). Yet we would rate it well ahead of the VW in road manners.

There are disadvantages to the driving position, and they need correcting. The shift lever, so wobbly as to be funny, is too far forward when the seat is in its rearmost position. There are no armrests, and if you should be tempted to rest your arm on the window sill, resist! Two sharp metal edges will make you wish you hadn't. Pedals are too little, and the throttle demands a heavy foot.

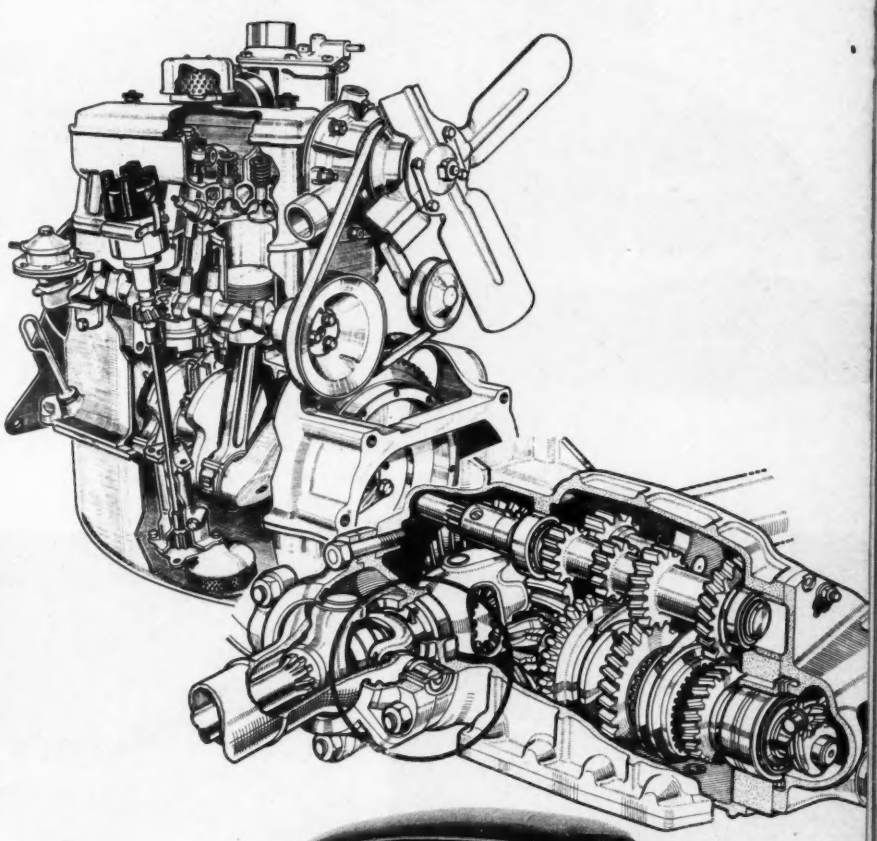
The dash panel, an evolutionary design adapted from the improved one on newer 4-CVs, is more complete than that of the VW. Well-hooded to cut night glare, the instruments include a speedometer, fuel and water temperature gauges, and warning lights for oil pressure and generator charging. An ingenious flip-over ashtray, 2 open but (*Continued on page* 64)

The Renault engine is tops for accessibility, neatness, and reliability. Note the fancy miniature headers

Trunk space under the inside-latching hood is enormous for such a small car, and battery is convenient

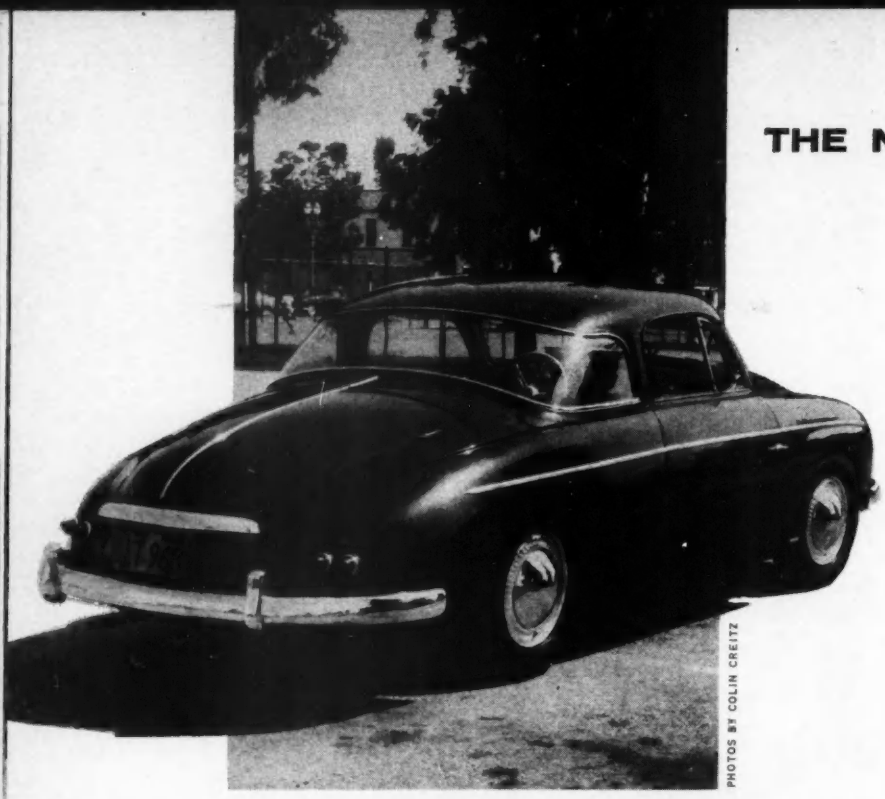
Spare tire location behind the front license plate is not the handiest, but permits the roomier trunk

The Dauphine's 4-cylinder, overhead valve engine, the Ventoux, is a gem. Tho the long-stroke design is not the best for avoiding wear, numerous features like the replaceable wet-sleeve cylinder liners will make an overhaul most inexpensive. The needle bearing (circled) is 1 of the 4 pins which are the sole locating devices for the swinging axles and axle housings, allowing vertical but no horizontal motion. Method seems rather flimsy



Frontal aspect of the Dauphine gives the impression of a scaled-down U.S. sedan, with smoothly flowing, aerodynamic lines. The cooling air intakes are recessed with a depression in the rear door panel forming an airscoop

PHOTO BY SOS BOB D'OLIVO



PHOTOS BY COLIN CREITZ

The Rometsch Sportswagen conceals its ancestry beneath sweeping, luxurious lines and appointments. But, the disguise conceals a VW!

THE NEW IMPORTS

TWO NEW

A truly custom car, built to individual order, turns up in the Rometsch VW

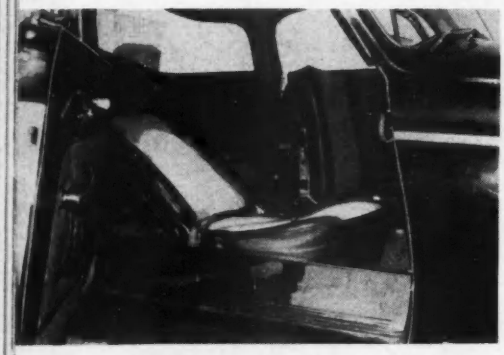
by Pete Molson

WHAT DOES A CUSTOM mean to you? Perhaps a dechromed Detroit product? A Ford with a Cadillac engine stuffed under the hood? Or an orchid hardtop with a chopped roof?

Long ago, during the classic era, it had a different meaning. The custom bodies offered on various big-name chassis were usually pictured in suede-covered brochures; the descriptions were garrulous, prices were genteelly unmentioned. These creations usually differed sharply from the stock body styles. Colors and upholstery were up to the individual—and well-heeled—buyer.

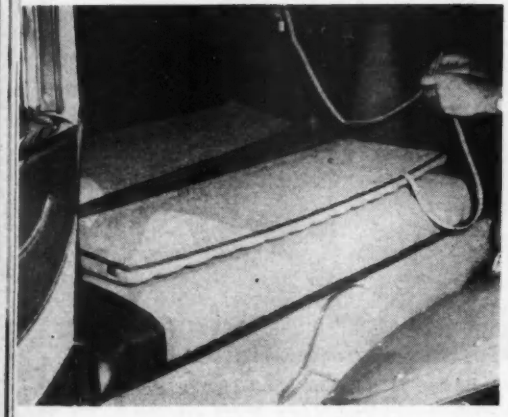
This traditional—and admirable—attitude toward the manufacture of a sincerely different car has been taken by the designers and builders of the Rometsch Sportswagen. Concealed underneath is a chassis as ultra-reliable as those on which the classic customs of the '20s and '30s were based, but in modern, economical form. Mechanical parts of the Rometsch are Volkswagen pure and simple. Dual carburetors are the sole alteration from stock condition.

Harking back to the classics, it's evident that many of the custom versions lacked the get-up-and-go of their stock counterparts. Not only did most manufacturers insist that no mechanical changes be made; the (*Continued on page 72*)

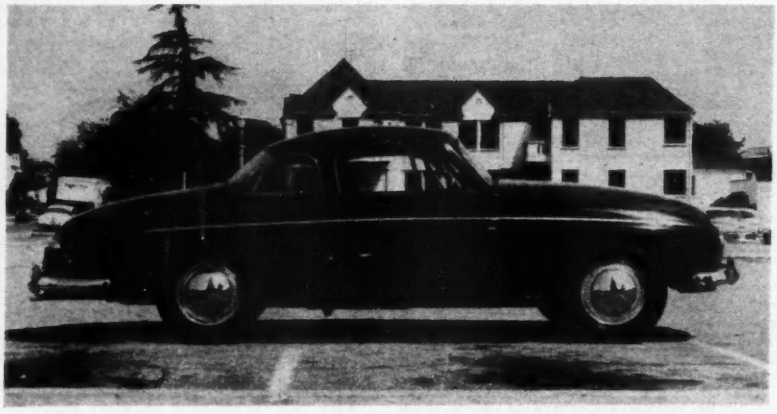


The little things that really count include the chrome doorsills, adjustable seats, and fine workmanship

The simple front end treatment is handsome, yet the single chrome bar gives an unfinished feeling



The small rear seat is intended only for children or adults in an emergency. Luggage straps are stock



Only the louvered wheels reveal their origin as Volkswagen components, as the car is resting. The sound of the air-cooled 4-cylinder VW engine is a dead giveaway, tho. Only major fault is the highly curved rear window

CLASSICS FOR THE CONNOISSEUR

Another kind of classic, the traditional sports car, is personified by Dellow

a photo story by Joe H. Wherry

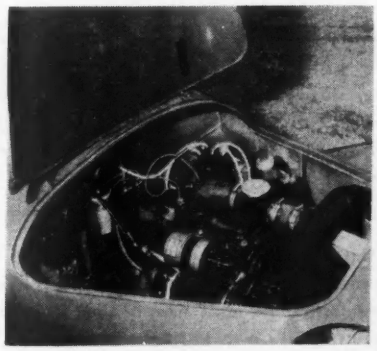
Tho the Dellow does provide a modicum of comfort, fabulous fuel economy, and a distinctive appearance, it's really a small hairy beast that is at its best charging thru woods, over hills, and across swamps

SOME surprise package—this Dellow. Descended from a batch of English "trials" cars of circa 1947, what was once just a backyard special, built around very little more than stock Ford "Ten" parts, has become quite a sensation in the British Isles. That's where a lot of chappies go in for a sort of hell-weekends called *trials* or *bashes*. These affairs are a peculiar kind of free-for-all where successfully sloshing thru mud and thicket and up nearly impossible hillsides is said to be just the thing for bored motorists.

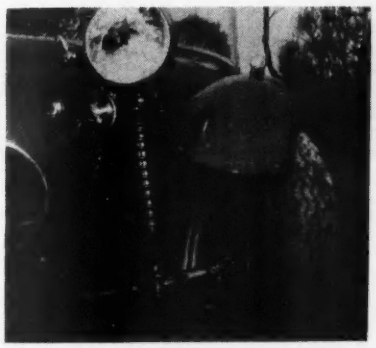
The idea is to build a car that has a lot of dig in low-to-medium speed ranges, that will stay upright where other cars will topple, and that can get traction where ordinary automobiles have no business venturing, even for "fun."

Such sport hasn't gotten much hold on these shores (with the exception of those who build special buggies for desert slopes and beach sand dunes), but a natural evolution has resulted in a little 2-seat sports car that could very well prove to be just the medicine for addicts unable to dig up the right amount of *jag* for a Jag.

London Motors of Edgemere, Long Island, N.Y., have brought in close to a dozen Dellows in the last year and we were fortunate in being able to contact the new owner of the latest, a Mark V-B, which has been redesigned with faired front fenders, 2 doors, and a real competition appearance. The little 1172 cc engine is virtually stock Ford Anglia equipment made snappier by a 7.6 to 1 compression (*Continued on page 65*)

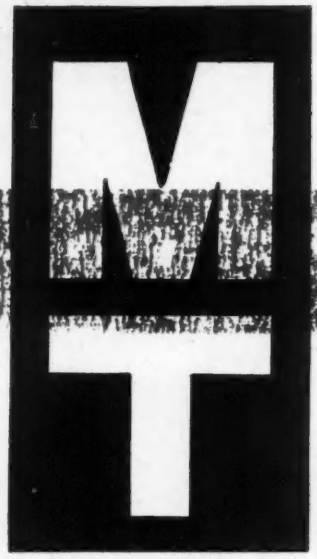


Slight modifications to the 4-cylinder Ford Anglia engine allow considerable latitude for boosting the bhp output, give real performance from stock parts



Axles and many other parts originated with Ford of Dagenham. Coil springs enclose Girling shocks

The Dellow is the sort of car that doesn't give a hoot for styling trophies. It's really a man's car



WIN-A-NEW-

WHAT WOULD YOU LIKE TO SEE IN THE 1957 CARS?

HERE'S the 1st part of a 2-part contest that will test your ability to put into words what you've probably thought of many times. And, after completing the 2nd part of the contest that will appear in next month's MOTOR TREND, *you* might be the lucky owner of a brand-new '57 car! So, take up your pencil or pen, or sit down at your typewriter. Then, answer this question:

What would YOU like to see in the '57 cars?

What you write doesn't have to be a bit of prose that would do Ernest Hemingway or William Faulkner proud. *All* entries will be judged on their sincerity and worthiness of ideas, *not* on their grammatical construction. You might think that the '57 cars should have 13-inch wheels. You're entitled to that opinion. You might suggest that the headlights

CAR CONTEST

should be in the roof instead of in the fenders. It isn't as crazy as it sounds, but you must also say *why* you think your suggested changes are needed. Whatever your idea is, write it down. Keep in mind these basic restrictions:

1. The contest is open to anyone living within the continental limits of the United States (including Alaska and Hawaii) except employees of Petersen Publishing Co., Inc., and their families, and except employees or families of employees of automotive dealers, automobile manufacturers, automobile parts manufacturers, automobile advertising and public relations agencies, automobile parts suppliers and/or automotive tool-and-die manufacturers. No entry fee, registration fee, or subscription is required. Contest is subject to all federal and state regulations.

2. Submit your answer to the question, "What Do You Want in Your '57 Car?" in 250 words or less. Typewritten entries are preferable but others will be equally considered. No drawings will be accepted in this 1st part of the contest, so send typewritten answers only. However, a 2nd entry must be submitted by each contestant (see Rule 4).

3. Entries will be judged individually on soundness of reasoning involved and justification of choices made. Decision of the judges will be final.

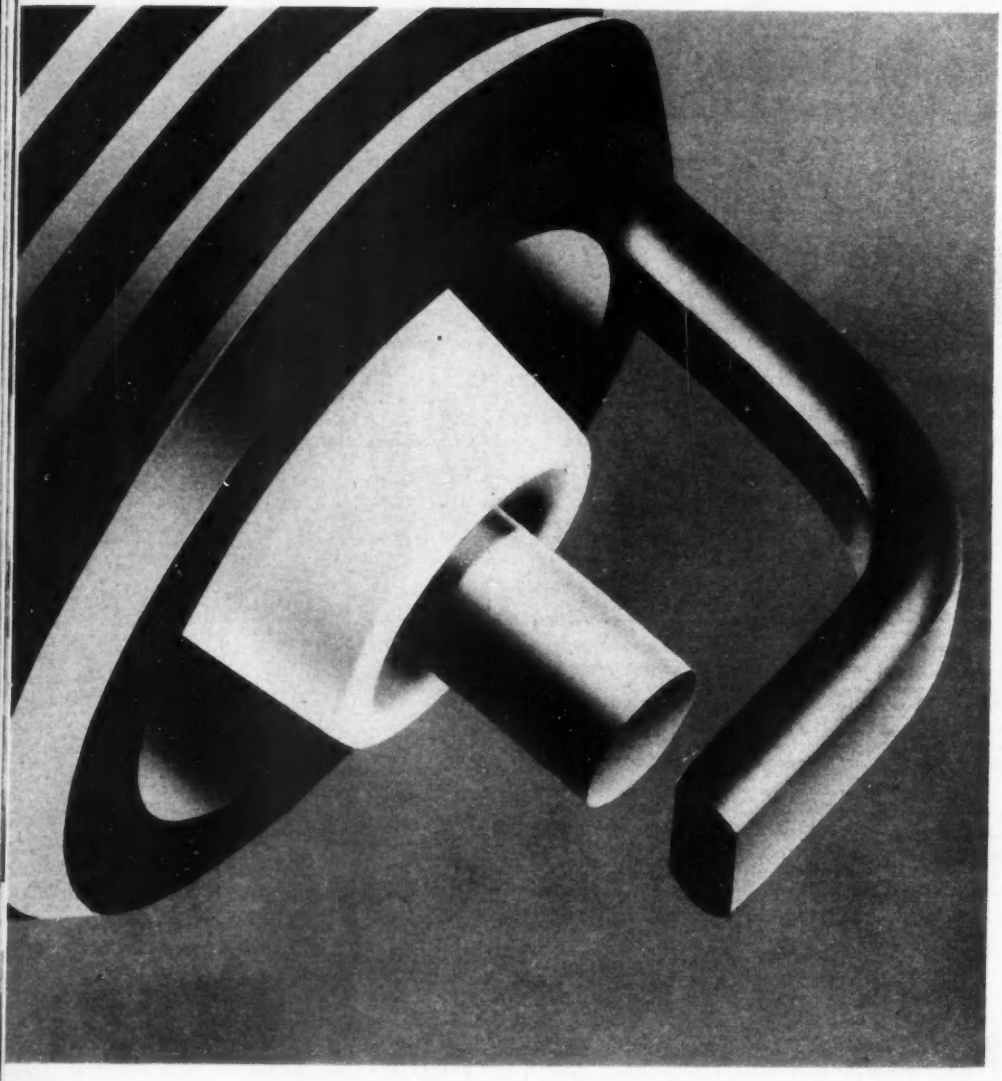
4. Entries for the 1st part of the contest must be postmarked not later than midnight, September 15, 1956, in order to be eligible. Entries for the 2nd part, to be described in MOTOR TREND, October 1956 issue, must be postmarked not later than October 15, 1956.

5. Entries become the property of Petersen Publishing Co., Inc., which reserves the right to print any entry or any part thereof.

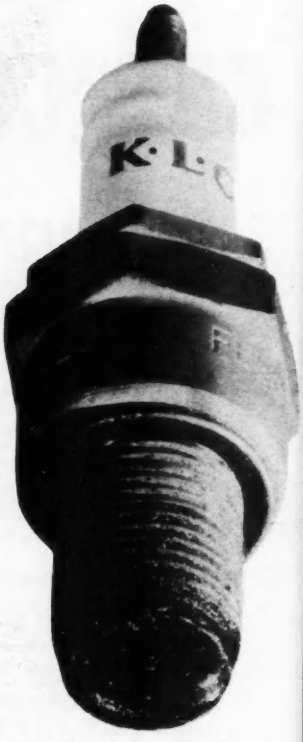
6. The 1st prize will be a 1957 car. The next 100 winners will receive a free one-year subscription to MOTOR TREND (or a one-year extension of their present subscription).

THE SPARK OF LIFE

by Don Francisco



It can flicker and
suit your engine



Champion's Turbo-Action plugs have a 14 mm electrode insulator that runs hotter under low-load conditions. But the 18 mm shell allows circulation around the insulator to keep it cool at high speed or when pulling hard

THIS MAY NOT be shocking news, but sparkplugs just aren't what they used to be. For years sparkplugs were well-adjusted and quietly efficient members of the group of parts that make an automobile engine run. All this was changed a few moons back by Detroit, when it put the pressure on the plug builders and forced them to come up with more efficient firing equipment if they wanted to stay in the racket.

Sparkplugs began to fall down on the job when compression ratios and horsepower output started going up in the early sessions of the present era of automotive development many like to refer to as the "horsepower race." Prior to this time sparkplugs were nothing more to a car owner than fragile bits of ceramic that were screwed into an engine and forgotten until either the car failed to start one cold, damp morning, or it was sold to a new owner who wanted to give it a fresh start in life with a new set of plugs. But progress, in the form of high compression ratios in engines with muscles they seldom use, changed all this. Plugs were made to work as they never had before and, most important of all, under conditions they had seldom encountered.

In appearance sparkplugs are the essence of simplicity, but the existence of more than 2800 U.S. patents covering their design refutes this impression and testifies to the effort that has

gone into their development. And, until gas turbines take over as propulsion units for automotive equipment, applications will probably be made for many more patents.

Basically a sparkplug is an igniting device consisting of an insulated spark gap in a housing that can be screwed into the combustion chamber of a cylinder. High-voltage current from an induction coil is conducted to the sparkplug at timed intervals and the voltage creates a spark as it jumps the plug's gap. This spark ignites the compressed mixture of fuel and air in the

then go out if your plugs don't as well as your style of driving

Three KLG "sparking plugs" from England illustrate what can go wrong with plugs the world over. The plug on the left is too hot. The one in the middle has been running at approximately the proper temperature, tho its electrode shows signs of burning. The too-cold plug hasn't burned off deposits

cylinder and the mixture burns and expands, eventually causing the engine's crankshaft to rotate and create power. A plug's duties sound simple but complications such as heat, pressure, and deposits from fuel and lubricating oil are continually working to cause their share of trouble.

Structurally, sparkplugs consist of 3 basic parts assembled into a unit. In the dim past plugs were assembled in such a manner that they could be taken apart for cleaning purposes, but now nearly all automotive plugs are of so-called one-piece construction. The 3 parts of a plug are the center electrode, the center electrode insulator, and the shell. The center electrode insulator has a hole thru its center for the electrode and the insulator is fitted tightly into the shell, which is of steel, with a gas-tight seal. The grounded electrode, which is one side of the spark gap, is usually permanently attached to the shell. Threads on the outer diameter of the shell enable the plug to be screwed into the cylinder head of an engine. Diameters of the threads on plugs vary, but the most popular at the present time are 14 and 18 mm.

It's obvious that any object in an engine's combustion chamber is going to be subjected to the intense heat and pressures in the chamber and be exposed to the deposits that normally collect on the chamber's surfaces. Heat and pressures are incidentals easily reckoned with, but deposits are a problem requiring more effort by the engineering and research departments of sparkplug manufacturers. If deposits were allowed to collect and remain on the insulator portion of a plug it would soon become impossible for the plug to function as it should and it would misfire. Misfiring can be the result of 1) deposits bridging the gap between a plug's center and grounded electrodes, thereby forming a path for the high-voltage current from the coil so that a spark cannot be created to ignite the mixture in the cylinder, or 2) by deposits on the insulator becoming conductors of electricity and allowing the voltage in the center electrode to travel to ground over their surface. A plug in either of these conditions is considered fouled.

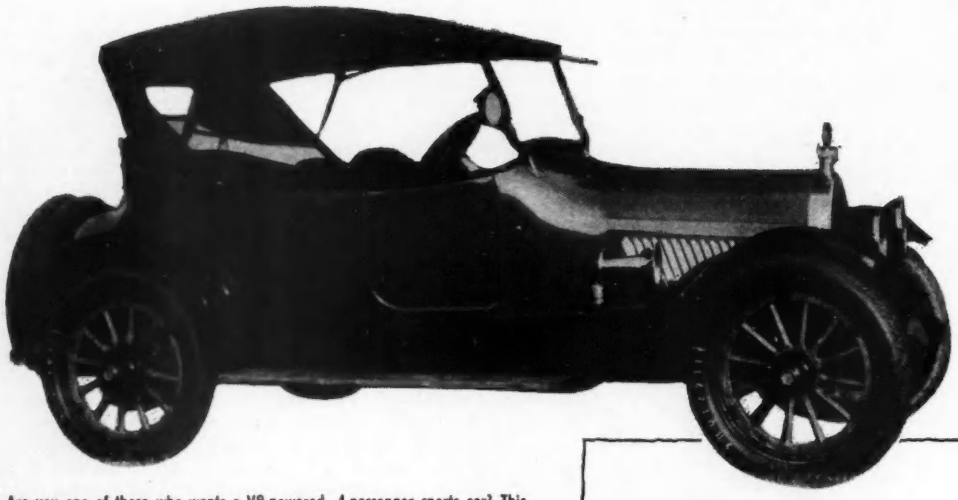
Sparkplugs are engineered to prevent their fouling under normal operating conditions by controlling the length and design of the portion of their center electrode insulator exposed in the combustion chamber. By carefully regulating the length of the insulator its temperature can be maintained within a range that does not allow deposits to collect under normal conditions and build up to the point where they can cause trouble. In this manner the plugs become self-cleaning by the utilization of heat. Generally speaking, the longer the insulator the hotter the plug, and vice versa. The temperature range within which a plug will operate satisfactorily is its "heat range."

Sparkplugs of all makes are made in a number of heat ranges for different engines and operating conditions. Heat ranges run from cold to hot in degrees deemed necessary by the particular manufacturer. A plug with a range too cold for an application will foul in normal operation because its insulator does not become hot enough to burn off deposits, and the insulator of a plug that is too hot will overheat at high engine speeds or under conditions of heavy load and cause pre-ignition by igniting the charge in its cylinder before the compression stroke is completed.

One group of researchers says the temperature of sparkplug insulator tips must remain between approximately 600° and 1600° F at all times. At temperatures below 600° insulators will foul, and when above 1600° they will cause pre-ignition. These temperatures were determined with the aid of thermocouples attached to the critical parts of sparkplugs installed in test engines operated under normal conditions.

Theoretically, a hot-type plug is required in an engine that runs under cool conditions, such as normal town driving. A plug with a cooler heat range that will not become overheated and cause pre-ignition must be used for faster driving, such as is experienced on thruways and during cross-country trips. But, fortunately, for most conditions sparkplugs have heat ranges broad enough to enable them to remain clean at low speeds and still not cause pre-ignition at high speeds—that is, they did have until recently. Engines built before the horsepower race began can get along quite nicely with sparkplugs of practically any make as long as they are somewhere near the correct heat range, but the big, hairy jobs being built now are more fastidious in their demands. This is the reason sparkplug engineers are racking their brains for new ideas that will lead to the development of plugs with more flexible operating characteristics capable of matching the widely varied moods of 250-horsepower engines that are as meek as lambs one minute but roaring like lions the next. It's simply that higher (*Continued on page 44*)

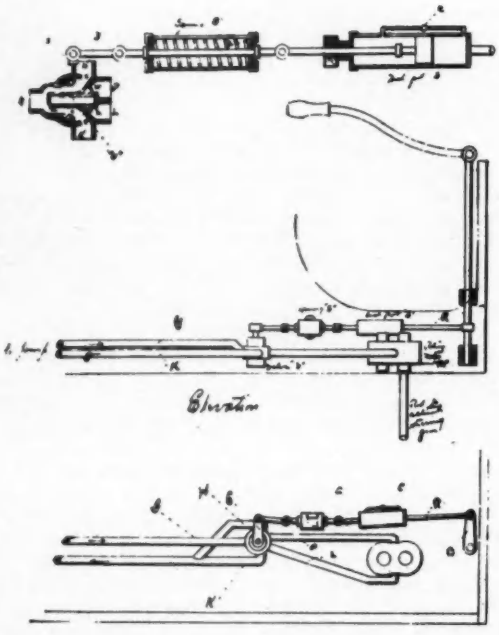
SEEMS TO ME I'VE



Are you one of those who wants a V8-powered, 4-passenger sports car? This Olds would have satisfied you for $1467 back in 1917. Completely original except for tires and top, it is the pride of Dr. C. H. Elsner, Crete, Nebr.

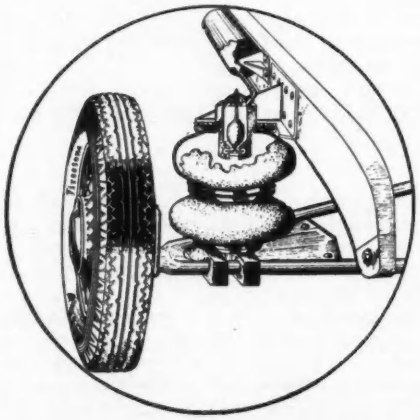
WHEN the current generation of auto manufacturers brag loudly about their startling new features, such as push-button transmissions and airliner reclining beds, it probably never occurs to them to 1st check up on what their grandfathers did. It didn't to us until a day last summer when we wrote a story about the Automobile Manufacturers' Association's fantastic library and patent file (MT, Aug. '55) and illustrated a point by showing that wraparound windshields appeared as early as 1865 on baby carriages and were used intermittently on autos up until 1921.

This sparked further research, and we present here some of the reasons why we are convinced that there is nothing really new—about cars, at least. It is also interesting to note that few of the pioneers we use to illustrate this thesis are with us today.



Power steering, full-time or otherwise, was known to the editors of **Horseless Age** when the year 1900 was not 4 months old, as witness this proof from a reader. As far as we can tell, his claim of originality was valid

COURTESY POPULAR MECHANICS



Sharp-eared Clifford Schwab, of Jonesville, Mich., thought all the excitement about air suspension in '57 didn't sound exactly new, dug up this comparatively ancient (1936) Firestone development

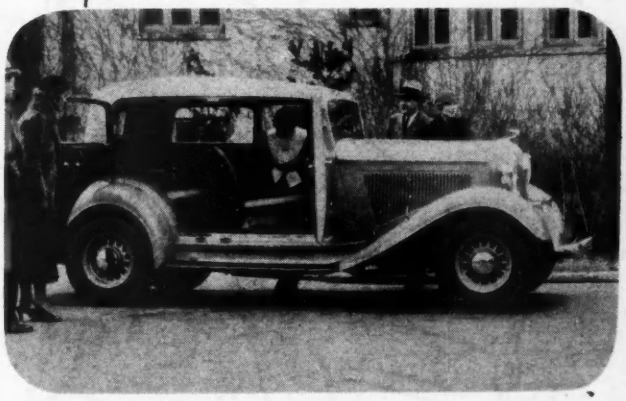
SEEN THAT BEFORE

Telephone companies report a remarkable boom for their postwar baby, 2-way radio. The rig shown here is of 1919 vintage and precedes widespread use of home radios

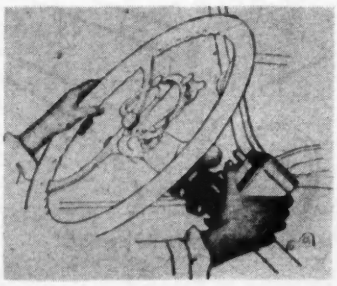
COURTESY POPULAR MECHANICS

Real wire wheels are now prohibitively expensive, so falsies are widely used to cover up discs. Back in '33, Cadillac was concealing wire wheels under phony discs!

When Danger Threatens
The automobile driver needs both hands on the steering wheel
He can't afford to waste the fractional instant it takes to reach for a horn button on the steering post, the dash, the door, or some more inaccessible place.
THE SENG SWITCH
Instantly Accessible Quick as Thought
Standard Size $3.00
Ford Special $2.50
STANDARD
Dealers—Jobbers—Garagemen
W. P. SENG, 1450 Dayton Street, Chicago, Ill.



Today's popularity of the 4-door hardtop recalls a car that never quite saw production, DeSoto's 1933 pillarless 4-door sedan. Latches were at the top and bottom



Pushbutton transmissions are widely ballyhooed by 2 companies in '56, will be almost universal in '57. Take a look at the farsighted 1917 Premier: "A Cutler-Hammer electric switch box, which pre-selects the gear to be used, is located on the steering post . . ." But there was "a hand lever . . . instantly inserted for shop use" which probably came in mighty useful

TUNE-UP

"I need a tune-up," you say. But do you? What do you expect it to include? And how

by William Carroll

I NEED a tune-up," says the customer. "Brother, you'll get tuned up," mutters the mechanic as he visualizes another 300 per cent profit job. "Come back tomorrow and your car will be ready."

Next day there are screams of mortal injury in the garage office. "But, all I wanted was a tune-up," cries the frantic customer, staggering under an itemized bill of about $70.

"Mister," replies the mechanic, "that's what you've got. I installed a rebuilt carburetor, put in new sparkplugs, a coil, condenser, points, oil filter, manifold gaskets, high-tension wiring, checked the voltage regulator, installed a new battery cable and tuned the engine for peak performance. Now it runs like it's supposed to."

But don't you believe it! This brand of petty larceny is pulled off so well that records of the Better Business Bureau of Los Angeles show not a single tune-up complaint in the past 3 years, as compared to thousands of other automotive gripes. Probably this is due to the public's ignorance of what comprises a tune-up, and the realization that a gripe about a tune-up is futile. Most car owners have heard of the practice known to shyster service managers as a "pencil job." This petty theft calls for listing, on the repair order, work that was never done but for which the customer pays. Invariably these phantom repairs concern parts of the engine that are hidden from view. How could you easily check on the installation of new main bearings? Unfortunately, tune-ups are not easily inspected by the customer. What customer-driver knows for sure when his pride and joy is really tuned for peak performance? If a mechanic can encourage the engine to perform only a little better than before, his unknowing client is, more than likely, well pleased. Then, if in addition to making the engine run better, said mechanic charges for a few new or reconditioned parts (which help to create an impression of technical improvement) and spends a bare minimum of time on the job—it *is* a highly profitable job for him.

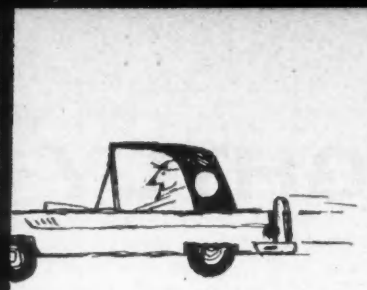
"Could it be something wrong with the propeller?"

This is one reason that, despite frequent attention given relatively new cars by the agency and owner, most automobiles operate at less than 75 per cent of their potential efficiency. Certainly it's a far cry from gas mileage attained with perfectly tuned cars in the Mobilgas Economy Run to miles per gallon reported by owners of similar stock cars.

Another valid excuse for such discouragingly poor performance lies in the statement of an automotive test engineer, "Many mechanics are poor diagnosticians. They seldom use available test instruments and often persist in tuning engines to meet personal opinions rather than specifications of the manufacturer."

Then too, you the customer are known to be a difficult person to convince that an engine tune-up takes time, plus a few

TRAPS



are you going to know whether you really got it?

expendable parts, and should be done at reasonable mileage intervals. The value of a tune-up is one of the most predictable factors of automobile ownership. For example: Most people drive an average of 10,000 miles a year. If a tune-up gives you *only* 1 additional mile to the gallon of gasoline, savings in pocket money alone will amount to nearly $15. Gain 2 more miles to the gallon and you've made $30—which buys a lot of something else. As secondary benefits, you have enjoyed the pleasure of a smoothly performing car which is much less likely to give unexpected trouble.

This brings up an important point. How often should an engine be tuned? The correct answer lies in driving habits and the newness of your car. The Lincoln Division of the Ford Motor Co. recommends a "minor" tune-up every 6000 miles to maintain the performance built into its engine. They further suggest servicing (changing) the sparkplugs every 10,000 miles, plus a complete visual inspection of the engine at least every 2000 or 3000 miles. Today's high-compression engines operate with a heart-warming smoothness when in tune. Out of tune, they are expensively rough-running gas eaters. What was good enough for the famous Model A is no longer satisfactory for a 285-horsepower V8. Once we've agreed that careful tune-ups are worth doing, to save money and have more driving fun, the question becomes: Which tune-up? Major or Minor?

A Major tune-up usually (but not always) includes replacing burnt points, condenser, sparkplugs, "boiling" and regasketing the carburetor, adjusting noisy valves, plus every one of the inspection operations listed later in this article.

A Minor tune-up is what most of us get for a hard-earned $10 or $20. Our old sparkplugs are sand-blasted clean and regapped, breaker points are cleaned and adjusted (or replaced if necessary), the ignition timing and carburetion are adjusted, and the mechanic tries to sell us a new battery. It is worth while having the minor job done every 5000 or 6000 miles, if you can hold the mechanic to a reasonable figure for readjustment of the ignition and carburetion, plus replacement of the points if required.

There seem to be at least 2 good places in every town for tune-ups. No. 1 is the garage or *well-equipped* service station where you usually trade. The owner considers that if he does a poor job (or overcharges) you'll find it easy to do business elsewhere. The 2nd place is a dealer selling the car you drive. If his make of car serves you well now, there is a better than average chance that, come trading time, he can sell you a shiny new one without too much trouble. However, unscrupulous dealers can very successfully gouge a customer, as their respectability can form a cloak over their operations.

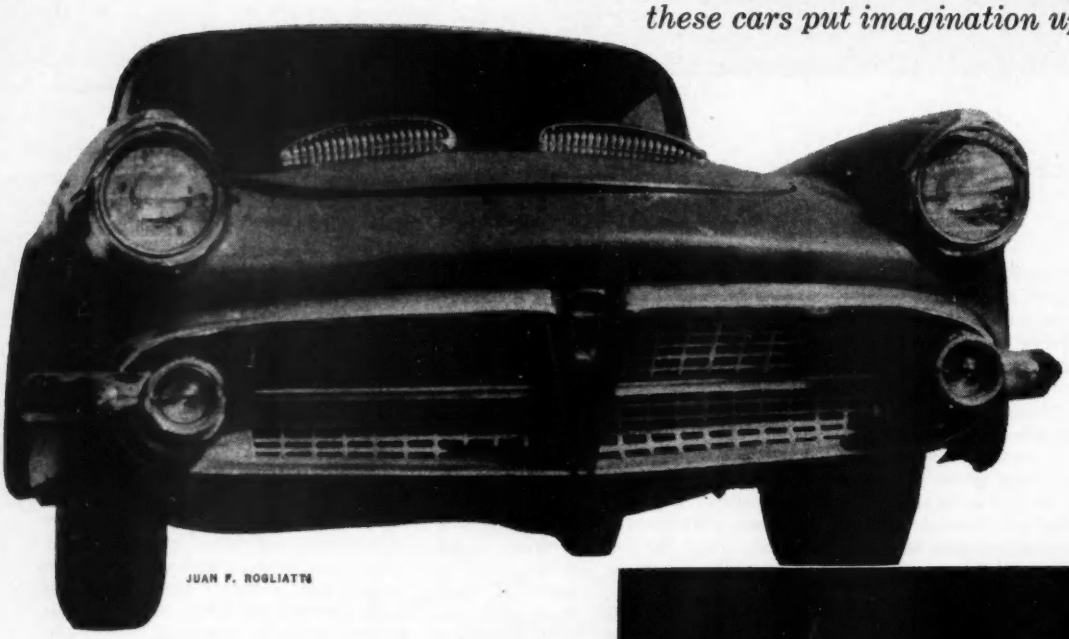
After you have decided where to have the work done, spend a little time with the following paragraphs. They detail the proper routine (compression, ignition, carburetion) recommended by factory engine experts, which routine should be followed by any mechanic doing your work. In addition, there are included in this list added comments regarding the relative importance of the work being done, how the mechanic might cheat you a bit thru dishonesty or laziness, and a simple method by which you can check the steps yourself. This check list is definitely not a set of how-to-do-it instructions, but is rather a how-to-find-out-if-it-has-been-done resumé.

Before making a single adjustment to any car, the good tune-up mechanic will run a compression test of the warm engine. Using a pressure gauge, pressed against an open sparkplug hole, he will measure the pressure inside each cylinder while the engine is cranking. All cylinders should test to within 10 points of each other. If 2 adjacent cylinders read low, the head gasket may be blown and require replacement. Individual low-reading cylinders could be those with worn or broken piston rings, a blown gasket, or burnt, worn, and warped valves and valve seats. Several squirts of motor oil into a low-reading cylinder will sometimes bring it up to specifications, if the rings or valves are leaking. If the oil does not help, the trouble is probably due to a gasket leak or really major damage. The world's best tune-up will do so little for an engine with widely varying cylinder pressures that your money is almost totally wasted. It would be profitable to have the heads pulled and (*Continued on page 62*)

"It IS in low gear!"

SLIGHTLY OFFBEAT

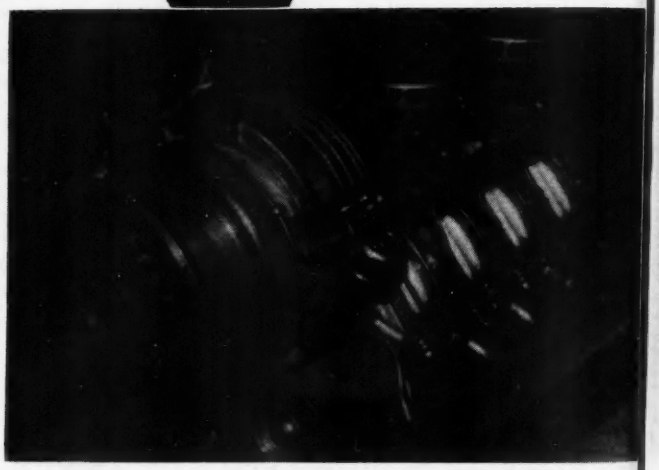
All one-shot wonders but the Bassons', these cars put imagination uppermost



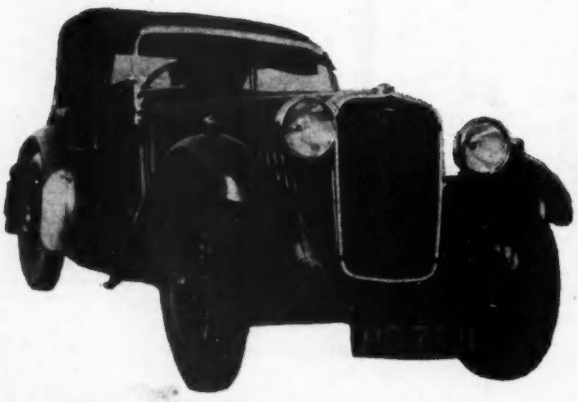
JUAN F. ROGLIATTI

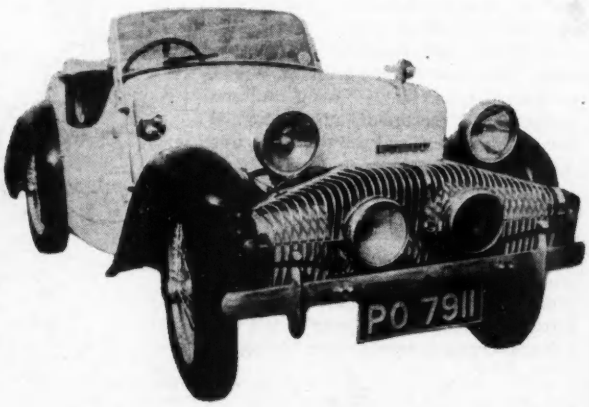
IAME V8

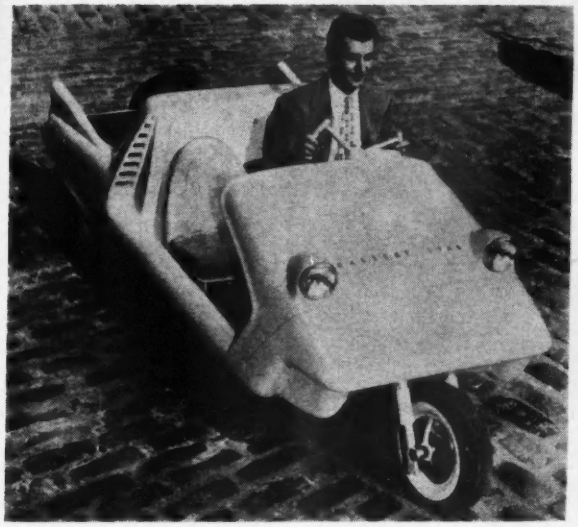
We show only the wide-grilled front view of Argentina's latest, the IAME Gran Turismo coupe, because the side view is nothing short of hideous. In any event, the broad airscoop is more than usually significant, because it shields a V8 whose only cooling is from a giant fan. The enormous air duct dwarfs the engine and even seems to suggest that this is not an internal combustion powerplant at all. Before you get too excited, we'd better explain that this is only an experimental model and that production plans are vague at best. There are 4 carburetors and compression ratio is a mere 7 to 1, owing to the deplorable octane rating of Argentine fuel. The bore is 3.15 inches and the stroke 2.95; the output is 125 horsepower at 4400 rpm. Each cylinder is a separate casting, and a tubular oil cooler sits on top of engine. Body is of plastic, red and cream inside and out



10-YEAR WONDER

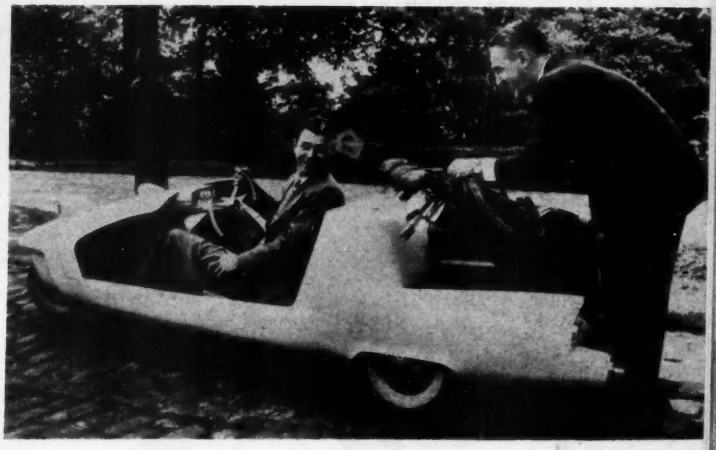






BASSONS' STAR

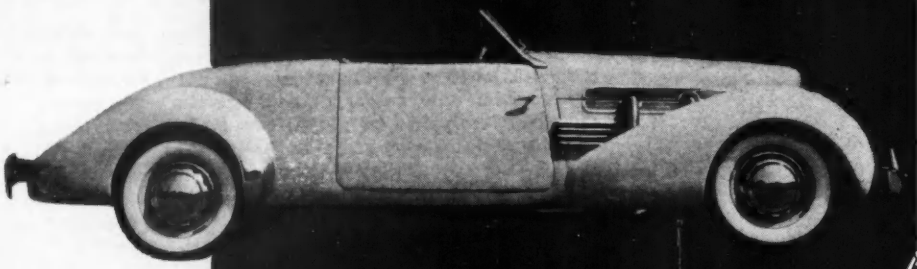
At the wheel of his latest creation is Gil D'Andrea of Bassons Industries Corp. The Star has a tubular steel frame and a German J.L.O. engine underneath its plastic shell. The engine is a 10-horsepower, 2-cycle unit with a single cylinder and contains starter, generator, clutch and transmission gears in one compact package. Weight is just 400 pounds, allowing the $1000 car to claim a cruising speed of 40 mph and a top of 70. Passengers sit comfortably on individual blue foam rubber seats. Bassons' address is 1432 W. Farms Rd., Bronx, N.Y.



A-M SPECIAL

"I'm a little proud of this deal," writes Ray Meyette, of Fort Lauderdale, Fla., and goes on to relate how he bought this '52 Nash Ambassador sedan—at least, it was a sedan—and did all this unaided! He cut off the complete roof section, rear quarters, and front seat metal, leaving only the 4 doors (he chopped them 3½ inches) and the unit frame section. He then fishplated the original frame rails and welded the X-member and side rails of an Olds inside of the Nash frame. Steel tubing and bumpers built into each side reinforce the rear quarters. The one-piece steel top, from a '48 Kaiser, was in automatic operation in a few months. Rear fenders are from '49 Fords, mounted back to back. Meyette used only 14 pounds of lead on the whole car, a tribute to his work

The big news about the 3 cars at left is that they are one car, in various stages of development over 10 years. Things are, of course, more leisurely in England, where owner R. L. Walker lives, and he writes, "It has been my practice to carry out various stages of modification during the winter period and leave off at a convenient point to run the car during the summer months." At far left is the original Singer Le Mans with which he started. It had the unexciting specifications of 59 cubic inches displacement, 2 main bearings, and a 5.57 rear axle. Yet this is perhaps the one portion Mr. Walker has retained, and near-fantastic fuel economy explains why. The V windshield and new doors were built by him (the doors twice); even the wheels have been altered in size; and he has attained his goal of "a car that is different"



DRIVE
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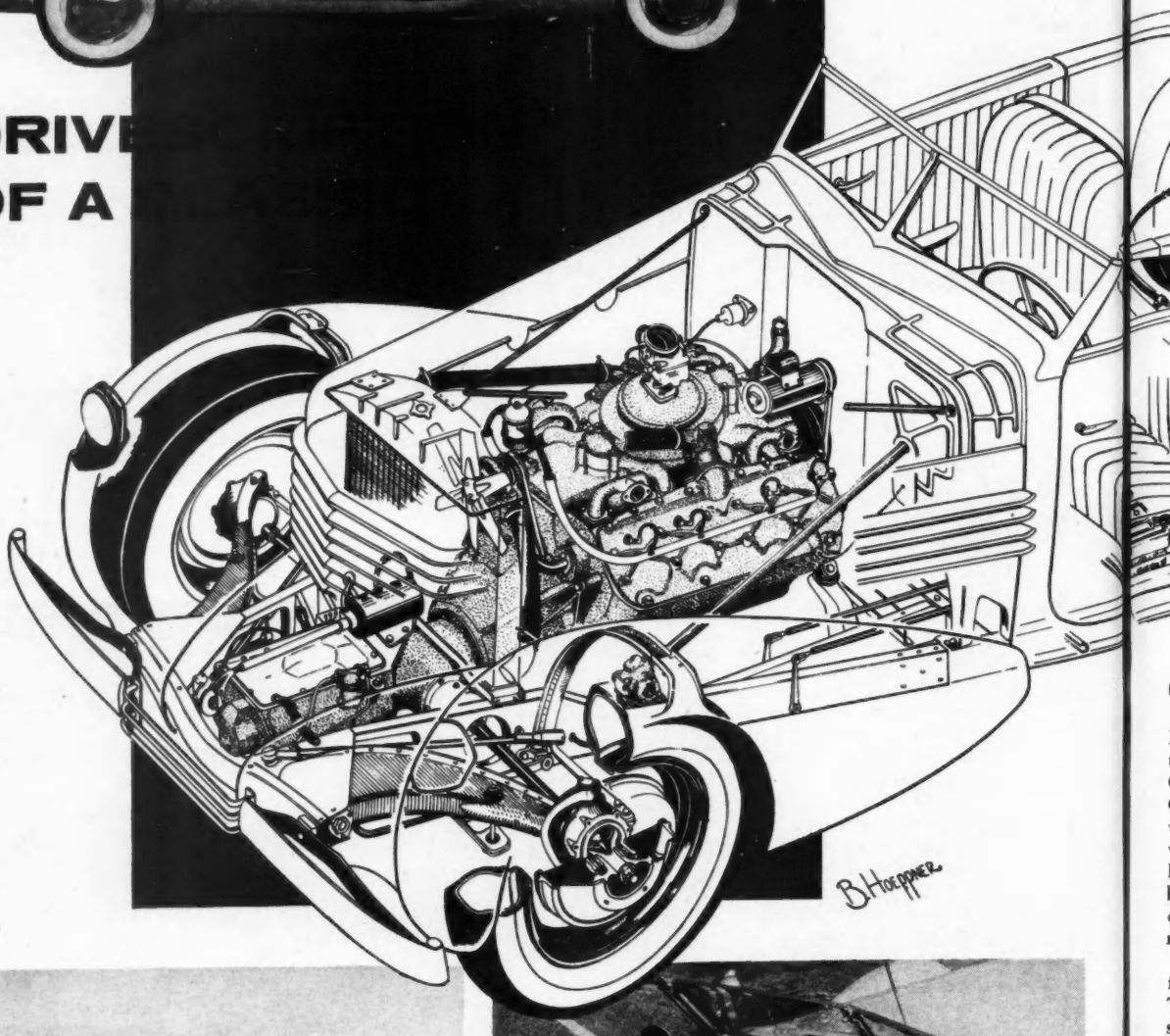
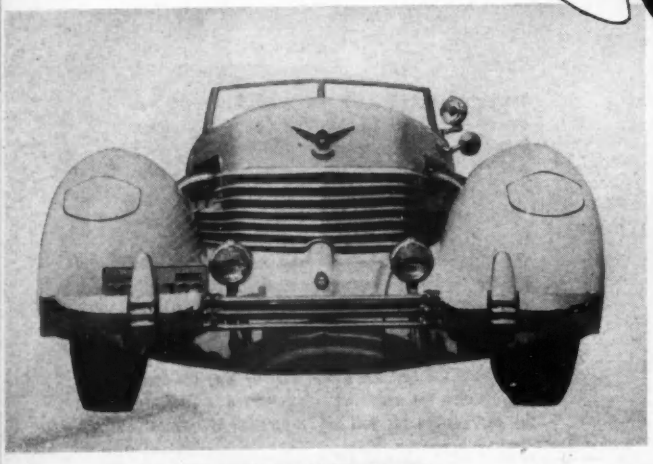
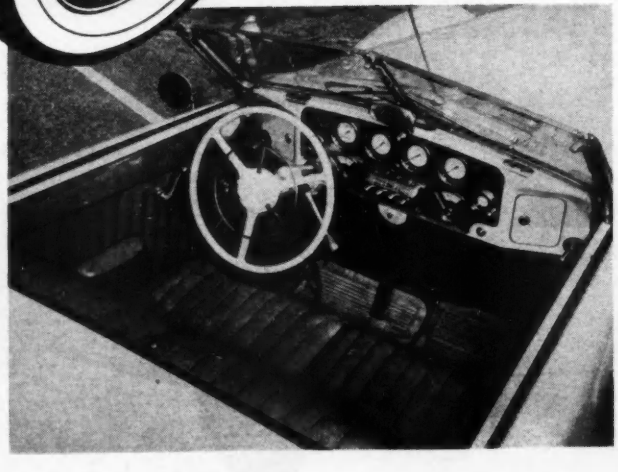
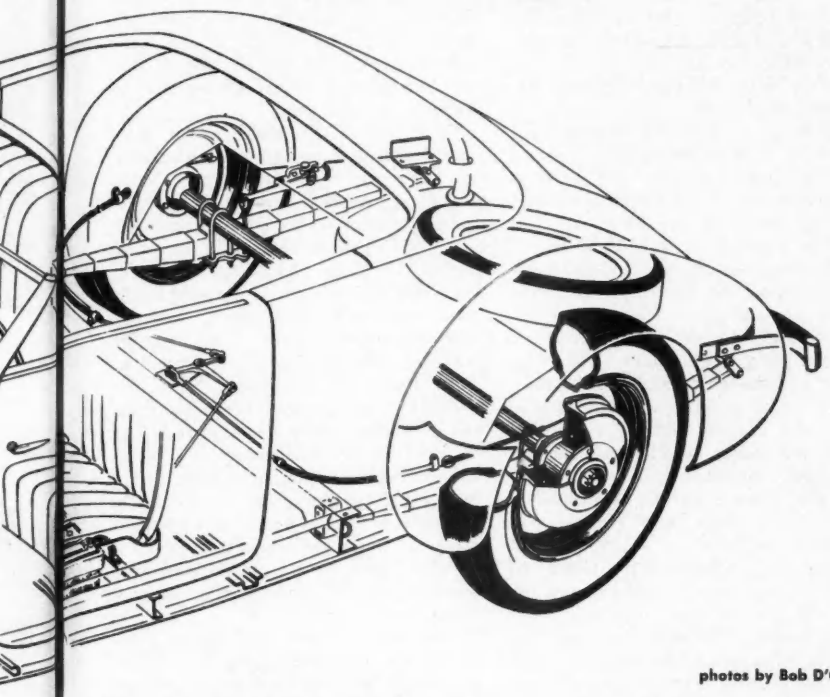






CLASSIC COMMENTS

by Robert J. Gottlieb Classic Car Editor



photos by Bob D'Olivo

THE DUESENBERG is supposed to be the mightiest classic ever built. The Marmon is supposed to be the smoothest, the Rolls-Royce the most silent and the Cord the most fun to drive. Enthusiastic Cord owners are always so boastful that we decided to obtain a Cord and ascertain whether all the claims were justified. We knew the Cord was a fabulous car, but because it had been many years since we drove one we did not want to trust our memory alone.

We borrowed a 1937 812 cabriolet from Henry Portz of Garden Grove, Calif. The particular car is well kept and almost stock: the modifications are relatively minor. The vacuum shift and electric preselector have been replaced with a manual control, a turn signal indicator has been added on the left side of the steering column and the tail light lenses have been exchanged for those from a Pontiac.

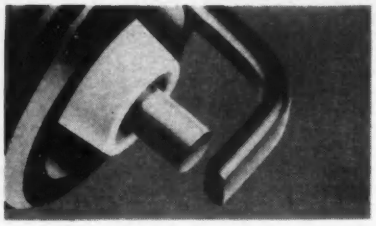
On approaching the car you immediately notice its outstanding beauty, definitely accentuated by the remarkable restoration. The doors close with the heavy thud you expect to find in a true classic; it's most satisfying. Once behind the steering wheel you cannot help but comment on the comfortable cushions. They are firm and cause you to sit erect. You cannot help but wonder whether you won't be tired from the position after a long trip, but we found that this was no problem. The chief difference between the seats in the Cord and those in modern-day cars is in the support afforded your back. Contemporary builders have incorporated a slightly reclining seat which is extremely soft when compared to the Cord.

Turn the key, depress the starter button mounted on the right-hand side of the instrument panel and the 170-horsepower V8 engine roars into life. Maneuvering the car out of a parking lot gives a lasting impression that the steering is stiff and the steering wheel too small. The original Cord steering wheel is much smaller in diameter than the steering wheel found on the average classic or on a modern car. The wheel requires considerable effort to turn at low speeds. Once you get the car rolling it softens up, almost enough to make you think you're driving a car with power steering. The stiffness brings to mind the front-wheel drive—except for the stiffness it would be hard to realize that the car was not conventionally built.

The other 1st impression you receive is that you are in a sports car. The stiff sports car ride is noticeable even tho you are seated well up in the air. Compared to modern cars you feel that you are sitting in a 2nd-story office. Compared to the majority of classics built thru 1939 you feel as tho you are sitting on the ground. Sitting up high the way you do gives you a curious detachment from the road, yet you feel a good deal of the road irregularities. Chuck holes and bad ruts are not insulated from the steering gear. By modern standards the ride cannot be considered good.

When you go around corners you feel the front-wheel drive in the form of slight tire squeal from the front wheels only. Otherwise, you would never know the Cord had front-wheel drive unless, of course, you went into a corner too fast and took your foot off the gas pedal. In that event you feel the rear end break loose and it is necessary to point the nose in the direction you wish to go and put your foot in the carburetor. Front-wheel drive cars have always had a tendency to break loose under fast cornering conditions, unless you maintain an almost constant speed. If you can remember to keep your foot on the accelerator in a turn you will experience no difficulty because the front wheels will pull the rear end in the direction of travel.

The mass of instruments on the dash has its modern-day counterpart only in the better sports cars like the 300-SL. Four black-and-white dials are mounted across the top of the machined instrument panel, each with an airplane-type dial. They indicate, from left to right, speed, revolutions per minute and oil pressure (there are 2 gauges for this). Originally the Cord had one oil pressure gauge and a clock. Portz replaced the clock with a 2nd oil pressure gauge connected to the transmission. With this improvement he always knows the pressure supplied to the gearbox. Below and to the left of the speedometer is a water temperature gauge with its thermometer-like tube. In traffic you must keep a constant watch on it because like most Cords the car tends to overheat in stop-and-go driving. The most unusual instrument is the combination oil and fuel level indicator. When you read the gauge it indicates the amount of fuel in the gas tank. Depress a button located immediately below the gauge and you know how much oil is in the crankcase. Beneath the (*Continued on page 56*)



THE SPARK OF LIFE

continued from page 35

compression ratios and an altogether different set of operating conditions have antiquated the type of sparkplug that served so well in the past.

In high-output racing engines it is necessary to use hot plugs to prevent fouling when warming-up and colder plugs when maximum power is required. In recent years automobile engines have come closer and closer to racing engines, in both design and power output per cubic inch of displacement, and their sparkplug heat range requirements have approached those of the racing machines. However, the similarity between the 2 types of engines, as far as plugs are concerned, ends here because the nature of the plug fouling that occurs in them is entirely different.

Plug fouling in racing engines is the old-fashioned type directly attributable to the comparatively high oil consumption characteristics of engines assembled to "racing tolerances." If the plugs are too cold the oil that makes its way into the cylinders when the engine is running collects on the center electrode insulator and firing terminals of the plugs and eventually bridges the gap between the terminals. In contrast to this comparatively simple set of circumstances, plug fouling in the high-output passenger car engines now being manufactured is a more complicated thing caused not by oil but by fuel.

By present standards the underpowered engines that have gradually dwindled away the past few years had to work hard, even in city driving, to maintain the vehicle speeds most drivers demand. Working as they did, those faithful but unexciting powerplants subjected their sparkplugs to a comparatively narrow range of combustion temperatures well within the heat range of the plugs, and fouling was not a problem. Now, however, an automobile can be driven for days or weeks at a time without using a tenth of its engine's potential. Sparkplugs in an engine exerting so little effort remain cool because combustion temperatures are low, and their insulators don't retain sufficient heat to burn off the deposits that collect on them. Then, when greater demands are placed on the engine by highway driving or hill-climbing, the plug heat rises to its desirable temperature and the plugs foul. Hotter plugs in the engine would enable them to keep clean under low load conditions but when the car was driven harder the insulator in the plugs would overheat and cause pre-ignition. Pre-ignition from any source can cause extensive damage to an engine if it is allowed to continue.

It is the opinion of many petroleum and automotive engineers that the tetraethyl lead used to raise the octane rating of gasoline is the indirect cause of plug fouling in modern engines. These engineers say, however, that a pattern of vehicle operation is required to develop the fouling. This pattern is, roughly, as follows: Several miles of slow, light-load city driving, interspersed with many periods during which the engine is allowed to idle, followed by a period of medium to heavy-load highway driving. During the light-load operation the sparkplug insulators are not hot enough to burn off the deposits of lead salts and carbon that collect on them. Then, when engine speed is increased and the temperature of the combustion chambers and sparkplugs starts to go up, the deposits undergo a chemical change and become metallic lead. The metallic lead, because it is a conductor of electricity, forms a path for the secondary voltage in the plug's center electrode and enables it to travel to ground without jumping the gap between the plug's terminals. This pattern coincides almost exactly with practical experience.

The effects of steadily climbing compression ratios add to the sparkplug misfiring problem by increasing the resistance between the plug electrodes of an engine operating under conditions of high load. High compression ratios have no effect on the sparkplugs of an engine operating at low load because compression pressures are low and the voltage spans the plug gap without difficulty. But when the engine is working hard compression pressures are high, and the resistance faced by the voltage becomes more difficult to overcome. When the resistance of the spark gap becomes greater than the resistance of the deposits on the center electrode insulator, the voltage takes the route of least resistance and travels over the deposits to the plug shell. This is a misfire and the power of the engine falls off because all its cylinders are not contributing their share to the task of turning the crankshaft. Another thing that affects the performance of sparkplugs is "gap growth," which is the widening of the gap between a plug's center and grounded electrodes. Gap growth is the result of the erosion of the surfaces of the electrodes caused by heat and the almost constant bombardment of the electric current that arcs between them.

To overcome the tendencies of high compression and gap growth to increase the frequency of misfiring, most automobile manufacturers have adopted 12-volt ignition systems to provide the necessary energy to fire the sparkplugs in their new engines. Prior to 12-volt systems many high-compression engines, operating under ideal conditions with clean, correctly gapped sparkplugs, were on the verge of misfiring when running at high speeds or under high load conditions. When the sparkplugs became dirty after a few miles and their gaps grew a few thousandths of an inch, the electrical energy of a 6-volt ignition became entirely inadequate to fire them at high engine speeds or heavy loads. Performance was limited by the resultant misfiring. But regardless of the fact that 12 volts helped the gap growth and compression problem, it had no effect on misfiring due to fouling.

The solution to the lead fouling problem seems to be a sparkplug that will at all times maintain an insulator temperature within the desirable 600° to 1600° range so the deposits responsible for fouling will be prevented from collecting on its insulator at low driving speeds and the insulator will not overheat and cause pre-ignition at high speeds. This is a mighty large order to fill but it has been given top priority by all the major manufacturers of sparkplugs, and as is to be expected, each company has its own solution that it proudly presents as the best.

The Champion Spark Plug Co., for instance, has attacked the problem with a new design it calls "Turbo-Action." Turbo-Action plugs consist primarily of a 14 mm electrode insulator, modified to run hotter under low-load conditions, housed in an 18 mm shell. The idea of the small insulator in the comparatively large shell is to provide a greater amount of space around the insulator. When the engine is running under heavy loads or at high speeds this additional space allows a greater quantity of fresh mixture and other gases to circulate around the insulator and cool it—Champion calls this action "charge cooling"—thereby reducing the tendency of the insulator to overheat and cause pre-ignition. The overall result is a plug that maintains an evener in-

sulator temperature thruout the full range of engine operation, "normal" or not.

Further benefits said to be derived from Turbo-Action plugs are credited to the tapered seat on their shell. The taper matches a corresponding taper in the cylinder head and supposedly provides a more foolproof installation because gaskets are not needed, allowing the plugs to be installed without a torque wrench and at half the tension required for plugs that use gaskets. Also, because of the tapered seat, heat transfer between the plug and the cylinder head is better and there is less

tendency for the plug to loosen in the head, insuring proper heat range stability. However, because of their 18 mm shells and tapered seats Turbo-Action plugs can be used only in engines equipped with them as original equipment. At the present time this group includes only Ford Motor Co. products of 1955 and later.

Another Champion feature claimed to improve plug performance is a new electrode material recently incorporated in all their plugs. The new material is still basically nickel but it now contains new alloying materials that combine to make an alloy highly resistant to the effects of high-temperature erosion. Laboratory tests show this new alloy, called "Powerfire," to be capable of withstanding combustion chamber temperatures up to 200°F higher than electrode material used formerly. The advantages of Powerfire electrodes to the motorist are longer plug life and greater freedom from losses in engine performance resulting from gap growth.

A new AC sparkplug, designed to stay clean in the new engines, is manufactured by the Electronics Division of General Motors. AC's descriptive name for their challenger against lead fouling is "Hot Tip." Hot Tip plugs resemble standard types with the exception that the tip of their center electrode insulator is recessed to provide clearance around the electrode. The recess is fairly shallow in relation to the insulator's length and its purpose is to allow the heat of combustion to circulate around the tip when the engine is running at low load to maintain the tip's temperature above the critical fouling point. At high engine speeds or when the engine is operating under heavy load the insulator apparently dissipates heat at the same rate as a conventional insulator. The result, according to AC, is a plug with a "balanced heat" insulator that enables the plug to resist fouling by burning away deposits at all engine speeds.

The recessed insulators of Hot Tip plugs also have the additional advantage of lengthening the path the voltage in the center electrode must travel to reach a grounded surface without jumping the gap to the grounded electrode.

The Electric Auto-Lite Co. has defied sparkplug tradition in its bid for anti-fouling supremacy by designing a plug with a "Power Tip" insulator that extends out of the plug shell. The purpose of the long insulator is to place its tip out in the open so to speak, where it will be exposed in the combustion chamber. By exposing the insulator in this manner its tip becomes heated more quickly at low engine speeds and remains hotter, but it is cooled at high speeds by the fresh charge entering the cylinder on each intake stroke. The result of such a design, according to Auto-Lite, is a sparkplug that resists fouling at all engine speeds.

Power Tip plugs are said to have other advantages over conventional plugs as a result of moving their firing electrodes deeper into the combustion chamber. These advantages, supposedly due to evener and fuller combustion, are better idling, positive ignition at all speeds, and in some cases, improved economy from the ability to use leaner fuel-air mixtures without sacrificing power or performance.

Extending the vital parts of Power Tip plugs so deeply into the combustion chamber restricts their use to engines with overhead valves because of the possibility of interference with the valves of L-head engines. This fact is of minor importance, however, for the reason that it is doubtful whether there are any L-head engines on the road that need plugs of this type.

The center electrodes of Power Tip plugs are equipped with resistors thru which the high voltage current must pass to reach the spark gap. The resistor is said to serve 2 purposes, one of which is of a theoretical nature and the other more easily proved. On the theoretical side, the resistor is claimed to improve plug performance by reducing gap growth. This is accomplished by the resistor's ability to dampen the last part of each high-voltage discharge that arcs across the spark gap. As far as electrode erosion is concerned, the last part of the discharge is the most damaging because it is of a much higher amperage than the part that precedes it. Because of the lower gap growth rate made possible by the resistor, Auto-Lite says their resistor-type plugs will operate satisfactorily with initial gap settings up to 0.010-inch wider than can be used with standard plugs. Wider spark gaps usually provide a smoother idle and allow an engine to operate with leaner mixtures.

Another effect of the resistor is suppression of ignition interference in radios and TV sets. This has been proven time and again by installations in those vehicles where good radio reception is important.

The Blue Crown Spark Plug Corp. has re-engineered its product to withstand the rigors of today's engines by providing it with 2 ground electrodes. The 2 "Double-Gap" electrodes are claimed to reduce fouling, reduce gap wear, and assure more complete combustion. The anti-fouling and better combustion characteristics are said to be the result of more complete ionization of the mixture in the cylinder, which has a conditioning effect on the mixture that prepares it for faster, more complete combustion. A gas that has been ionized is a conductor of electricity. The mixture or gas between the terminals of any sparkplug must be ionized before the spark will jump the gap between the terminals, but Blue Crown says the additional ground electrode on its plugs acts as a "teaser" to increase the field of ionization around the electrodes. As the ionization of the mixture in the spark gap of a plug becomes more complete, the voltage required to jump the gap becomes lower.

Lodge sparkplugs, imports from England rapidly gaining favor with amateur and professional racing mechanics in the U.S. and gradually spreading into the stock field, fight fouling with high quality, improved materials. Lodge has 2 types of plugs suitable for use in automotive engines. The better of these incorporates a composite center electrode consisting of a resistor, a copper core, and a short platinum contact on the firing end of the electrode. Connections between the various parts of the electrode are gold-soldered together to guarantee positive electrical conductivity, and fused glass seals prevent

"BOOM!!!"

gas leaks between the electrode components and the "Sintox" insulator. The ground electrode on the shell has a small platinum insert to take the beating handed out by elevated temperatures and the high-voltage arc from the center electrode.

Lodge's Sintox insulator is used in all plugs in their very complete line. Sintox is a trade name of a material that consists mainly of aluminum oxide and a minimum amount of silica. Insulators of this material reportedly have at least twice the physical and dielectric strength of porcelain and a thermal conductivity 20 times greater. (Apparently, some manufacturers in England still use porcelain for sparkplug insulators; however, it's our belief that

all plugs manufactured in the U.S. have had insulators consisting primarily of aluminum oxide for many years.) The platinum electrodes are extremely resistant to heat and electrical erosion, reportedly reducing gap growth to a fraction of that suffered by nickel alloy electrodes of the type used on domestic plugs.

The Lodge case in the anti-fouling battle is based, therefore, on an exceptionally wide heat range and electrodes that resist gap growth. The wide heat range, made possible by the high thermal conductivities of Sintox insulators and the special center electrode, allows the plugs to operate hotter at low speed and cooler at high speeds, thereby reducing fouling and pre-ignition tendencies.

The automobile owner can save himself trouble and expense by having the plugs in his engine cleaned and gapped periodically by a reliable service man. Plug manufacturers recommend cleaning every 2000 to 4000 miles and the installation of new sparkplugs each 10,000 miles. Because the driving habits of individuals vary so much and these habits have much to do with the frequency of the service required by sparkplugs, it is impossible to set hard and fast rules for the number of miles one can drive without experiencing plug failure. Only the driver of an automobile can do this by careful observance of the miles traveled between fits of misfiring and plug-cleaning sessions. A pattern can then be worked out that will enable servicing to be done before misfiring actually starts.

Sparkplug servicing has come to require special equipment and a mechanic who knows what he is doing. Fouled sparkplugs of any make (regardless of whether they were fouled by lead or some other substance) and normally dirty plugs must be cleaned in a blast-type cleaner. Blast cleaning is the only practical method of removing the deposits that cause fouling from a plug's center electrode insulator. Scraping, wire brushing, and other substitute cleaning methods known at this time are ineffective. Deposits on its shell and interior surfaces other than the insulator seldom have any effect on a plug's efficiency.

When blast cleaning first became popular for sparkplug servicing, common sand was used as the cleaning agent. Now, most plug manufacturers recommend abrasives consisting primarily of either garnet or aluminum oxide for their cleaners. The reason for this change is fantastic but sound and is based on the fact that sand, lead oxide, and heat are the main ingredients used in the manufacture of glass. It seems that when sand is used to clean a sparkplug some of it manages to stick to the insulator. Then, when lead oxide from the fuel used in the engine collects on the insulator and is heated by combustion, a glass shell is often formed on the insulator. Under certain conditions this shell allows the voltage from the center electrode to short to ground and cause a misfire. Misfiring from this source is not usually a serious problem because it occurs so infrequently, but it can be eliminated entirely by the use of garnet or aluminum oxide abrasives for blast cleaning.

Complete plug servicing includes, in addition to blasting, thoro cleaning of all surfaces, filing of the electrodes to restore them to a reasonably flat shape, and adjustment of the gap between the electrodes. If the plugs require gaskets, new gaskets should be used when the plugs are installed in the engine. Plugs that use gaskets should be tightened with a torque wrench or, as an alternate method, by seating them on their gasket and then tightening them another one-half to three-quarters of a turn. The importance of good gaskets and correct tightening will be realized when it is understood that 75 per cent of the heat absorbed by plugs is dissipated to the cylinder head thru the gaskets.

Another thing a car owner can do to improve plug performance is use premium fuel in his automobile. The better the fuel, the less tetra-ethyl lead it will contain for a given octane rating, and the less lead in the fuel, the longer it will take for the lead salts that form the base of the fouling deposits to collect on the plugs. Also, if it is convenient for him to do so, the owner can use a fuel that contains the lead scavenger additive referred to as "TCP."

TCP is the ad writer's designation for "tricresyl phosphate," a member of the phosphate family found to have almost miraculous effects in the combustion chambers of gasoline-burning engines. When added to gasoline in minute quantities and used regularly, TCP will reduce plug fouling resulting from metallic lead deposits practically to the point of non-existence. From all indications TCP prevents the transformation of lead salts and carbon to metallic lead when these deposits are heated by medium or heavy-load engine operation. TCP also has other favorable effects in combustion chambers, among which are reduction and softening of carbon deposits, and in some instances, the suppression of detonation. All the effects of TCP are not thoroly understood at this time but so far it hasn't been discredited with reports of ill effects.

It seems strange that so much research must be conducted by sparkplug manufacturers to find a mechanical solution for a problem chemistry has solved. —D. F.

SIMCA and MAGNETTE

continued from page 27

feel of quality and solidity that have been familiar to most English cars. Its body has a narrow, high appearance and its interior capacity is adequate for only 4 adult passengers. The Simca looks like a small American car. It has a slab-sided body with room for 6. The doorhandles are like those on a '51 Ford. The inside handle and window cranks too. How about the headlight rims? Just like a Ford. It must be a Ford, look at the orange peel in the paint! We noticed a great contrast to this: most of the surface of the Magnette was as smooth as polished silver.

The Simca's wheelbase is 4 inches longer than that of the Magnette and it is 8 inches longer overall. The Magnette has the appearance of being much smaller than the Simca or than it really is and it manages to give this impression when one is behind its wheel. Both cars are good looking, each in its own style.

The workmanship on the 2 cars is very good. The doors fit well, the interiors are nicely finished, and, in general, they are as solid as gilt-edge bonds. The interior of the Magnette is flawlessly tailored in genuine leather for the seats, with matching imitation leather door panels.

The interior of the Simca is less beautiful than that of the Magnette but perhaps more practical in this land of seasonal high temperatures. The seats are trimmed with an imitation leather border that effectively covers all wear spots. Door panels and other interior trim are combinations of cloth and imitation leather. The rear seat has a pull-down armrest.

There is ample legroom in the front seat of both cars and the range of seat adjustment is sufficient to provide comfort for both short and tall drivers. In the Magnette the steering wheel is a little too far forward when the seat is all the way back but in the Simca the wheel seemed to be a bit too close to the driver with the seat back. However, steering wheel position is a thing of personal preference and what appeals to one person may be lumpy mashed potatoes to another. Visibility in both cars is very good.

The biggest surprise of the whole test was the degree of comfort afforded by the Simca's rear seat. One can sit in a normal position, even with the front seat all the way back, with room to spare between his

knees and the seat in front of him. Comfort is further improved by the recess in the floor that allows a person's feet to be placed under the front seat without danger of losing a toe or scuffing a shoe if the driver should move the seat. Legroom in the rear of the Magnette is average.

Both cars have suspended brake and clutch pedals and the Magnette has a hydraulically actuated clutch. Foot controls in the Simca are well placed and easy to operate but in the Magnette they are jammed together in a comparatively narrow space because of the large tunnel in the floor for the transmission. The throttle lever is squeezed into a spot between the side of the tunnel and the brake pedal that is so narrow some of the men who drove the car during the test had to remove their right shoe before they could get their foot on the small pad on the lever. We found later, however, that the throttle could be moved quite satisfactorily with the shoe on by sliding the foot down a little so only the toe rested on the pad.

The instrument panel in the Magnette is highly polished wood and the instruments are positioned directly in front of the driver. A small electric clock is mounted in the middle of the cowl above the windshield. The ignition switch and controls for the choke and starter are mounted on the instrument panel on the left side of the steering wheel, making them somewhat clumsy to operate. In the Simca the choke is on the left side of the wheel and the combined ignition and starter switch is on the right. This arrangement is much more natural and convenient for the driver.

The Simca instrument panel is of painted metal with the instruments and controls in front of the driver. Instrumentation is less complete than on the Magnette but what is lacking in gauges is more than made up for in warning lights. The gauge complement includes a heat indicator, a fuel level gauge, and a speedometer, plus a clock, and there are warning lights for oil pressure, to indicate when the choke is closed, when the generator is operating, when the emergency brake is on, to show the turn indicator is on, and to indicate the high headlight beam. The instruments provided more than a little confusion for those of us who didn't take French in school. Present models are coming thru labeled in English.

Both cars have electric, self-canceling turn indicators that utilize lights instead of the tiny signal arms used on some foreign cars. The turn indicator control in the Simca is a short lever on the left side of the steering column similar to the controls in American cars. The control in the Magnette is in the center of the wheel.

Something we missed on the Magnette the 1st time around was the exterior door lock. The Simca has an exterior lock on each front door, as we have become accustomed to on domestic cars, but only the left front door of the Magnette can be locked with a key. This isn't a really important thing and it wouldn't prevent us from buying a car if it were satisfactory in other respects, but it is a source of irritation in countries where the custom is

to drive on the right side of the road. On some streets it's downright dangerous to step out of a car from the left side and in some states it is unlawful.

Under the Magnette's hood (or bonnet, if you will) is a 4-cylinder engine, of 90 cubic inches displacement and with overhead valves, typical of a large percentage of the automobile engines built in many foreign lands for economy-minded people. The engine has dual sidedraft carburetors but in other respects is quite conventional in design, sound, and power.

Under the hood of the Simca we found a tiny L-head V8 that bears tremendous resemblance to the Ford V8-60 engines of the late '30s. It looks like a 60 that has been modernized—with aluminum heads, aluminum oil pan, single water pump, and conventional ignition distributor. The engine runs and sounds like a hot version of a 60 and has the pleasing exhaust sound only a V8 can equal. Displacement of the Simca is 143 cubic inches, somewhat larger than the Magnette.

The Simca has the same cylinder bore as a 60 (2.6 inches) but a longer stroke (3.5 inches compared to 3.2 inches) which gives it a larger cylinder displacement (143 over 136 cubic inches). Other modern features of the Simca, including a higher compression ratio and larger carburetor, account for a part of its higher horsepower output (85 compared to 60). However, the horsepower of the 60 was developed at 3600 rpm and the Simca maximum is developed at 4600 rpm. This would indicate a more radical camshaft in the Simca that enables the engine to breathe more deeply at high engine speeds.

Both cars have independent front suspension with coil springs and conventional rear suspension with semi-elliptic springs. Hydraulic shock absorbers control all 4 wheels. Front suspension on the Magnette is of the conventional type with upper and lower control arms but the Simca uses the pillar-type construction characteristic of Fords of foreign manufacture. Each front wheel of the Simca has one lower control arm with a radius arm that runs back to the frame. The coil springs are mounted above the kingpin assemblies. Wheels on the Simca are 13 inches in diameter with 6.40 tires; on the Magnette they are 15 inches in diameter with 5.50 tires.

On the road the cars were found to possess altogether different driving characteristics. The Simca, with its 3-speed transmission and steering column gearshift, drives a lot like one of our own products with a synchromesh transmission and it was possible to enjoy better than expected performance by winding the engine fairly tight in low and 2nd gears. Acceleration at low engine speeds wasn't too good by American standards but at higher speeds there was ample torque to handle the car quite well. At around 60 miles per hour in high gear the engine has a vibration point that makes itself known by a throbbing that can be heard and felt. Many Ford V8s of pre-1954 vintage had such a vibration point that could be subdued considerably, and often conquered entirely, by rebalancing the rotating and reciprocating parts of their crankshaft and piston assemblies on precision balancing equipment. Perhaps the same treatment would improve the Simca.

The 4-speed transmission in the Magnette keeps the driver busy if he has the urge to keep up with traffic but the effort expended wriggling the conveniently positioned floor-mounted stick is so slight it doesn't prove to be any strain. It's necessary to bring either car to a complete stop to engage low gear with any degree of safety. The 2 top gears of the Simca and the 3 top gears of the Magnette are synchromesh gears and they can be shifted either up or down at practically any speed without difficulty. This is helpful in traffic where one must maintain the same flexibility of speed as other cars or take the chance of being imbedded in the grille of a hot-breathing American monster. The Simca could run away from the Magnette at any time but this was to be expected because of the Simca's larger engine and higher horsepower rating. The owner of a Simca would pay for this extra performance, however, with more frequent stops at the gasoline pump.

After driving the Magnette for a while it was discovered that low gear didn't have to be used as frequently as we thought at 1st. For the "rolling" stops an experienced cheater can usually get away with, the car pulls away nicely in 2nd gear. But when forced to make a legitimate stop it is best to engage low for at least a few feet to get the load moving again. Clutch engagement was smooth and easy in both cars but during the acceleration tests the Magnette clutch slipped on engagement; however, this rough treatment didn't seem to hurt it. After the tests the clutch operated as

smoothly as before. The throw of the clutch pedal in the Simca is somewhat longer than in the Magnette and it must be moved to the limit of its travel.

We started both cars off on the test with Mobilgas Regular in their fuel tanks but it soon became apparent the Magnette should have a better grade of fuel. On Regular the 4-banger had a tendency to ping, in a subdued but definite manner,

but this condition was eliminated entirely when a switch was made to Mobil Special. The Simca ran well on Regular but this may have been because the V8 is so short on torque at low engine speeds that there wasn't any chance to lug it.

Both cars have high-ratio steering systems that allow them to be driven with a minimum of effort. The steering of both is quick and easy but on rough roads a little more steering wheel shock can be felt in the Magnette. This seems to be a characteristic of rack and pinion steering gears. The Magnette wheel is harder to turn than the Simca's but this added resistance only makes the steering feel more solid. At high speeds we found it was a good idea to keep at least one eye on the road at all times to stay out of the ditch and on the right side of the center line because so little effort and movement of the steering wheel is required to change the direction of either car. Keeping an eye on the road is recommended when driving *any* automobile but usually it is possible to relax for an instant now and then in one of our domestic versions when cruising on the open road; however, don't do it when driving a Magnette or Vedette. The effortless ease of driving with the quick, positive steering found in these cars cannot be described with words. If one is familiar only with the steering of our soft-tired, heavy domestic brutes he cannot appreciate the feeling of freedom and control such steering imparts unless he actually tries it himself.

It would be a waste of words to say any more about the brakes of either car than that they were faultless and they stopped the cars from any practical speed without difficulty and with fairly light pedal pressure. Stopping a 2500 or 2600 pound car is a snap compared to stopping one that weighs a quarter to half again as much, such as those we are accustomed to driving. The difference in stopping efficiency becomes noticeable when a change is made from the light to the heavy car.

On smooth roads both cars provided entirely passable rides but on some of the rougher streets in the city the suspension of the Magnette was a little stiff, which gave it a tendency to jar its occupants a bit. It's possible that a person would become accustomed to such a ride but anyone who has not had an opportunity to ride in a small foreign car will notice the stiffness immediately. The Simca, on rough roads, had a firm feeling but it did not cause any passenger discomfort. We noticed a peculiar feel in the front suspension of the Simca. On smooth, level roads the suspension acts as tho it is severely shocked and the springs don't seem to move as the wheels travel over mild bumps. The tires flex but the suspension seems to remain solid. But when a more severe bump is hit by one or both wheels the suspension seems to pass a breaking point and it works to give the chassis a soft, smooth ride. It's a strange action but it gives the car a solid, dependable feel when driving fast.

On winding mountain roads both cars handled very well at speeds much higher than it was safe to drive as far as road conditions and visibility were concerned. Both were hampered by lack of power on hills but by dropping down a gear in the transmission and allowing the engine to wind it was possible for each of them to travel at normal cruising speeds without difficulty. Reserve power for passing on short stretches or on upgrades is practically nonexistent and without the cooperation of the driver ahead one must be content to stay in line until things open up and there is more fumble room ahead. Then the passing can be done without the danger of being involved in a head-on with something out of one's weight class. The engine in the Simca seemed to like high speeds, because the faster we turned it the smoother it ran. The Magnette, possibly because of the extra mechanism for its overhead valves, wasn't as happy at high engine speeds but with its 4-speed gearbox it wasn't necessary to wind it so tight on the hills to keep up with the Simca. At normal highway speeds on level terrain the Simca gave the impression it could handle an overdrive quite nicely.

On turns the Magnette displayed more body roll than it seems a car of its size should, but it was a movement that reached only a certain point regardless of speed. The roll was great enough to attract the attention of passengers but not of sufficient amplitude to cause them to hang on to stay in their seats. Body acrobatics of the Simca are less noticeable than those of the Magnette, and its passengers seem to remain as happy as passengers can when a poor man's Stirling Moss is showing his skill, or lack of it, at the wheel.

PERFORMANCE

	SIMCA VEDETTE	MG MAGNETE
ACCELERATION	From Standing Start 0-30 mph 4.9 0-60 mph 17.9 Quarter-mile 21.25 and 63 mph Passing Speeds 30-50 mph 7.05 45-60 mph 8.4 50-70 mph 15.6	From Standing Start 0-30 mph 6.9 0-60 mph 24.7 Quarter-mile 23.1 and 58 mph Passing Speeds 30-50 mph 10.06 45-60 mph 11.3 50-70 mph 22.3
FUEL CONSUMPTION	Used Mobilgas Regular Stop-and-Go Driving 23 mpg city and highway average	Used Mobilgas Special Stop-and-Go Driving 26.0 mpg city and highway average
TOP SPEED	88.5 mph	83 mph
REAR WHEEL HORSEPOWER	Clayton chassis dynamometer showed: 24 road hp @ 1500 rpm 32 road hp @ 2000 rpm 37 road hp @ 2500 rpm 44 road hp (max.) @ 3500 rpm 40 road hp @ 4000 rpm	Clayton chassis dynamometer showed: 16 road hp @ 1500 rpm 21 road hp @ 2000 rpm 25 road hp @ 2500 rpm 29 road hp @ 3000 rpm 31 road hp (max.) @ 3500 rpm 30 road hp @ 4000 rpm

SPECIFICATIONS

ENGINE: L-head V8. Bore 2.60 in. Stroke 3.37 in. Stroke/bore ratio 1.29:1. Compression ratio 8.5:1. Displacement 143.5 cu. in. Advertised bhp 85 @ 4600 rpm. Bhp per cu. in. 0.592. Piston speed @ max. bhp 2538 ft. per min.

TRANSMISSION: 3-speed synchromesh. Ratios: 1st 3.11:1, 2nd 1.77:1, 4th 1:1.

REAR AXLE RATIO: 3.9:1.

STEERING: Turning diameter 37½ ft. Number of turns lock to lock: 2¾. Type: worm and roller.

WEIGHT: Test car weight (with gas, oil and water) 2595 lbs. (54% front, 46% rear.) Test car weight/bhp ratio 30.5:1.

TIRES: 6.40 x 13.

PRICES: (Including suggested retail price at Port of Entry, federal tax, and delivery and handling charges, but not freight.) $2495.

ACCESSORIES: Fresh-air heater-defroster $65, whitewall tires $25.

ENGINE: Ohv 4. Bore 2.875 in. Stroke 3.5 in. Stroke/bore ratio 1.21:1. Compression ratio 7.15:1. Displacement 90.84 cu. in. Advertised bhp 60 @ 4600 rpm. Bhp per cu. in. 0.664. Piston speed @ max. bhp 2682 ft. per min.

TRANSMISSION: 4-speed synchromesh. Ratios: 1st 3.64:1, 2nd 2.21:1, 3rd 1.37:1, 4th 1:1.

REAR-AXLE RATIO. 4.875:1.

STEERING: Turning diameter 37½ ft. Number of turns lock to lock 2¾. Type: Rack and pinion.

WEIGHT: Test car weight (with gas, oil and water) 2470 lbs. (54% front, 46% rear). Test car weight/bhp ratio 41.3:1.

TIRES 5.50 x 15.

PRICES: (Including suggested retail price at Port of Entry, federal tax, and delivery and handling charges, but not freight.) $2495 including heater, windshield washer, fog lights, and whitewall tires.

During the acceleration tests and high-speed runs the needle on the Magnette's heat indicator remained stubbornly on the normal mark but the needle in the Simca left normal and climbed toward the hot side. Overheating when operating under load was one of the faults of Ford 60s and their larger L-head brothers because of their long exhaust ports that passed thru the water chambers in the cylinder block. There doesn't seem to be any reason for the Simca to be different in this respect; however, the temperature rise we experienced was not enough to cause any difficulty or even concern. It was simply an indication of what might possibly occur if the going ever got rough in hot weather.

By the time the indignities of our test had bared the many foregoing traits of the Simca and the Magnette, we had revised our 1st impression: The Simca was still exciting but the Magnette was no longer dull. It was clear that both cars had been designed as transportation pieces to fulfill an automobile's primary purpose of transporting people from one point to another. They have the ability to do this in a quiet, dignified manner that should please anyone who can be satisfied with just transportation. When one considers the domestic automobiles 2500 well-directed dollars will buy, the Simca and the Magnette automatically become somewhat overpriced. Actually, the Magnette is not suited to the driving conditions of U.S. highways where rapid acceleration has become a necessity if one is to stay out of trouble and not be a hazard for livelier cars. Driven on the verge of flat-out in the lower gears it holds its own most of the time but there are places where, even flat-out, it cannot cut the mustard. The Simca's larger engine and consequently better performance make it more adaptable. There are places where it too would be hard pressed to fulfill its duties with maximum safety to its occupants.

On the other hand, advantages to be realized from either of the cars in compensation for their shortcomings in performance are the personal one of having something different and the other one of having an automobile that will not consume as much fuel as larger but more suitable competition. However, when either of the cars is driven hard enough to stay with traffic much of the savings to be gleaned from lower fuel consumption can be blown out the exhaust pipe.

But disregarding all the ifs and therefores and the fact that neither of the cars would be much of a success on a drag strip or road-racing course and that when the red light turns to green there isn't a neck snap in either of them, a person looking for economical transportation and willing to drive accordingly, thereby accepting the cars for what they are, wouldn't be disappointed in either of them.—D.F.

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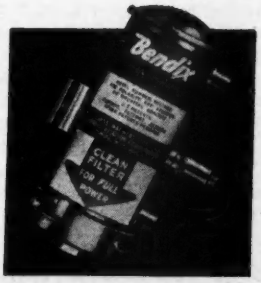

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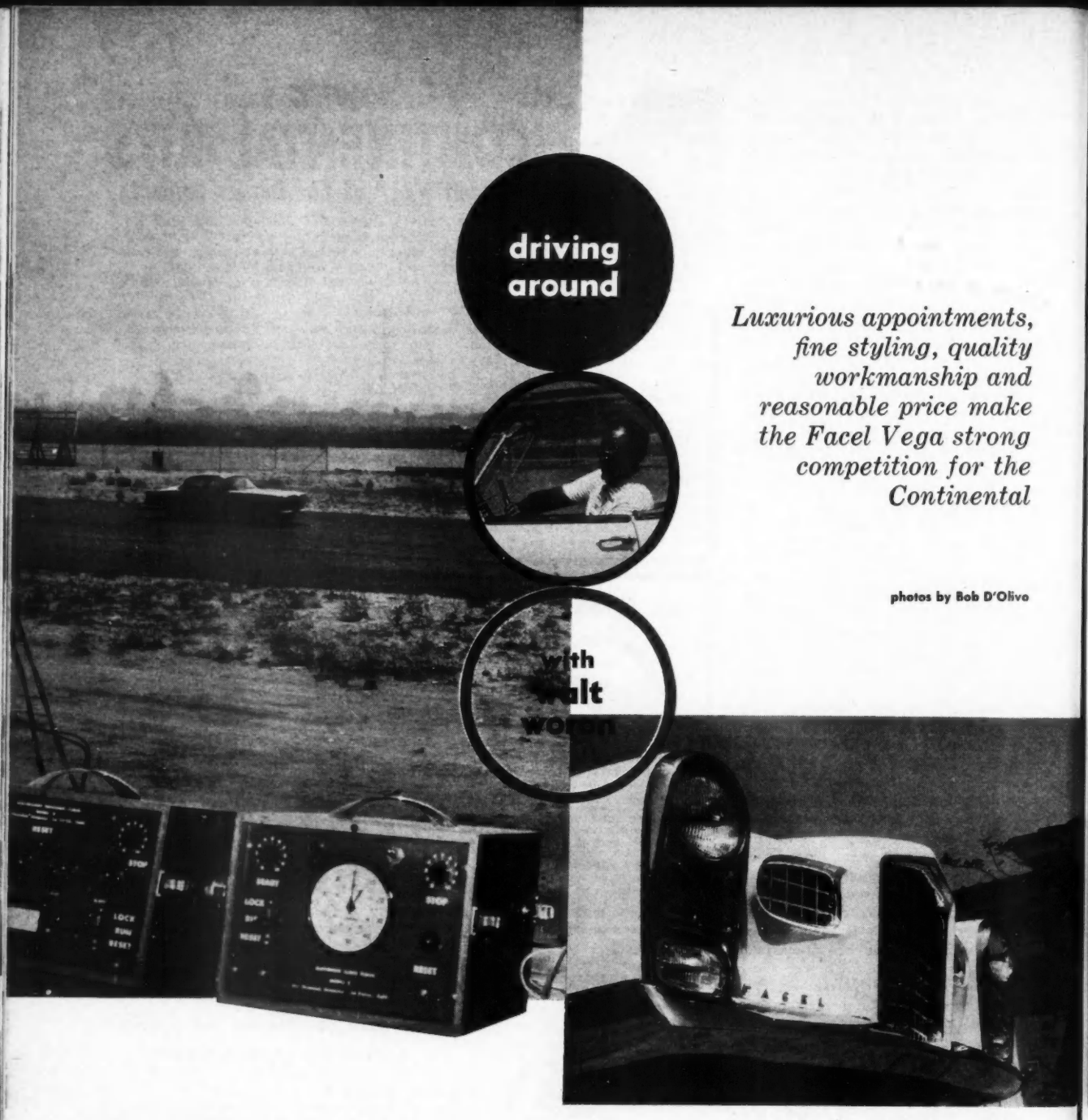


driving around with Walt Woron

Luxurious appointments, fine styling, quality workmanship and reasonable price make the Facel Vega strong competition for the Continental

photos by Bob D'Olivo

IT'S WITH GOOD REASON that we say on the cover of this issue that the Facel Vega is the Continental's competition. Here's a car that has as much show-stopping quality as the Continental (and maybe more), is finished in the impeccable Rolls-Royce style, performs with the agility of the hottest American cars, and handles as well as an Austin-Healey. And yet you can pick up one of these little jewels for $7500.

True, there are features about the Facel Vega that are not as nice as the Mark II, such as having to stoop to get in and around the wraparound post, the just-adequate legroom in the rear seat, and the constant question-and-answer routine you go thru: "What's that?" "A Facel Vega." "Who?" "French." "Wha'd you call it?" "Facel Vega." "What kind of engine?" "Chrysler." "Chrysler?!!" Oh, if you want a car to evoke comment and a display of interest, you've got it here. And it deserves it.

The story of how I arrived at the conclusion that the Facel Vega could be considered as serious competition to the Continental goes back at least a month prior to this writing. At that time I was talking to Charles Hornburg, West Coast distributor for Jaguar. I knew he had received a copy of our July issue and was wondering what he thought about our write-up on the Jaguar 2.4. After finishing that phase of the discussion, he added the intriguing footnote, "Say, I've got something at home that I think you'd be interested in. Can't talk about it for awhile, but you can see it and maybe you'd like to take some pictures." That was all he said. Not, "It's a Flushbottom X—the greatest thing to hit the road since the Year One." Just, ". . . you can see it and . . . take some pictures."

Our usual 9 o'clock starting time the next day found our Chief Photog, Bob D'Olivo, and me charging out in my Lincoln Continental to Hornburg's place in Bel Air. When we pulled into his secluded front drive, there was this little creature of a car. It was literally dwarfed by a Jaguar Mark VII, and stood even lower than an XK with its top up. The grille instantly reminded me of what Packard has been *trying* to approach in some of its dream cars. The rest of the car looked like a potpourri of English, French, and Italian designs. I had seen it before, but only in pictures (as you have, Oct. '54, Jan. '56 MT). I had no idea that it would take its physical form so well.

The prototype of the present car was 1st exhibited at Facel's assembly plant on July 29th, 1954. It was Facel's initial venture into the car business after 17 years of building bodies for other companies (Dyna Panhard, Simca Sports, Ford Comete). Jean C. Daninos, Managing Director and founder of the firm, recently redesigned the car to incorporate the wraparound windshield (purely a concession to modern U.S. styling!) He is now making these cars available in this country thru Hornburg.

While D'Olivo shot several rolls of film, I was scrutinizing this perfectly sized car for a couple and their 2 small children. The caliber of workmanship is above reproach. It's so well put together that even when screws are used in a row their slots are in alignment. The interior leather shouts of quality. The handles and other bits of trim that would normally be chrome are 1st-class stainless steel. The trunk floor is covered with a thick rubber mat, and even the parts of the fenders exposed in the trunk are covered with a rubberized material. The spare tire has its own compartment under the floor. Above the 25-gallon gas tank, which divides the passenger compartment and the trunk, is a permanently installed tool box. It has a sliding tray into

which each tool fits in its own quiet-riding foam rubber mold.

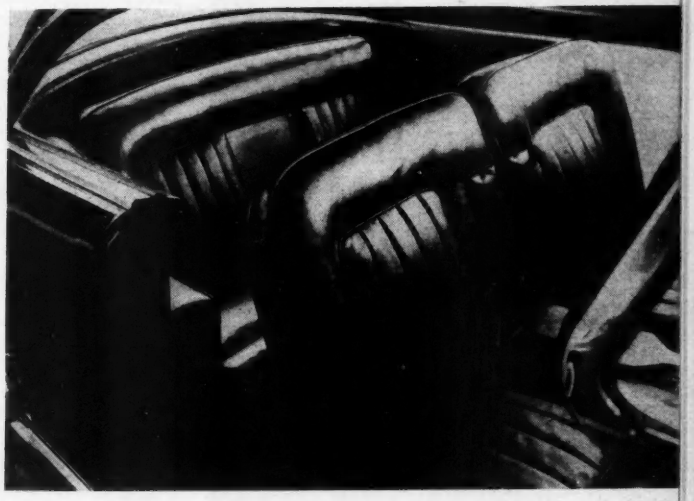
In between this 1st delightful day and the time we made the test runs, I had the opportunity to drive the Vega on several short hops. Its eagerness to be on the move and its resistance to getting crossed up were truly impressive. "Why not a road test?" I asked Chuck. His negative reaction at 1st was based on the car being practically a prototype, but a bit of persuasive argument won him over. After all, it was bound to perform with the best of them.

Several days later we rendezvoused in our back lot, Ken McDermott (Hornburg's General Service Manager) with the Powerflite-equipped Vega, and Bob and I with the stick-shift job. It took but a few moments to load in our test and photographic gear, then we were off in a cloud of tire dust. First stop (after coffee) was the San Gabriel Valley Drag Strip (in Baldwin Park). There the track manager, Bob Lee, was setting up the official NHRA timing equipment on the 3500-foot paved and perfectly level strip.

Knowing in advance that the 5th wheel couldn't be clamped onto the rear bumper because it's set flush against the deck, I had had the speedometer corrected on the Southern California Auto Club's speedometer rolls the day previous. The bounce and lag of the white speedometer needle was imperceptible, so we took our 0 to 60 mph readings from it. The elapsed time and speed at the end of the ¼-mile were picked off by Lee's lights and timer.

The 1st few times I tried to get off the mark without laying tire tread on the strip. The tremendous torque of the Chrysler 255-horsepower engine and my clutch-and-throttle coordination wouldn't permit it. After a few more unsuccessful tries, we left the strip to get more air in the tires. We pushed them all up to 36 psi (about 32 cold), and I took it thru again. This improved the times slightly, tho I still shifted the same way: revved to 2000 rpm, eased out the clutch pedal, stomped the throttle until the tach indicated about 4250 (the valves float above this point), yanked the short lever back to 2nd and again revved to 4250, pointed the lever in the general direction of 3rd and slammed it home, watched the tach again climb to 4250, and ripped it back into 4th—sometimes just short of, sometimes just beyond the ¼-mile marker.

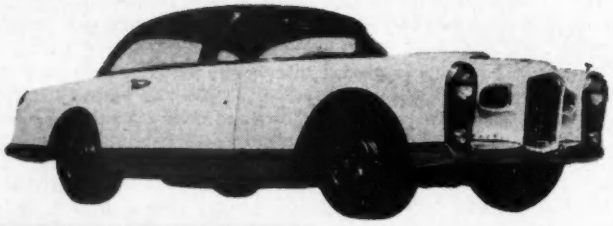
McDermott then advanced the timing by 2 degrees, which cut the times by another ½-second. Next, we dropped the tire pressure back to 32 psi (28 cold). This gave us our best times: 16.52 seconds in the standing ¼-mile, doing 82.34 mph, while the speedometer indicated 67 (a true 60) 10.5 seconds after



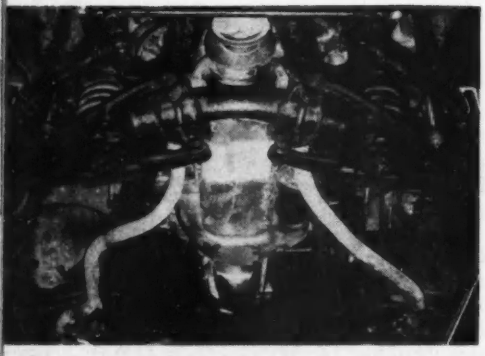
starting. For a 3735-pound car (fully loaded), this performance is pretty great. From 0 to 60 it might get nicked by a Buick Century, a Studebaker Golden Hawk, and a Chrysler 300-B, but not only would it be ahead at the ¼-mile mark, it would be going faster, too. The Powerflite Facel Vega made the ¼-mile in one second and 2 mph slower, which attests to the efficiency of the French racing gearbox. The Pont-à-Mousson box is an absolute joy to shift. Each gear, including low and reverse, is synchromesh. As long as the clutch pedal is halfway to the floor, you'll find it almost impossible to clash gears. When you pop the pedal, the Borg & Beck clutch grabs hold with a tenacious grip. It's a real man's gearbox-clutch combination and takes a healthy shove to push the pedal to the floor (about equal to that of the modified Jag).

continued

DRIVING AROUND continued



In the interests of slightly improved times, Ken McDermott advanced the timing just 2 degrees



Standard A-frame suspension is fixed to the rigid tubular frame. Aluminum pan and dual exhausts are neat

For high-speed acceleration we posted the following times: 4.5 seconds to go from 30 to 50, using 2nd gear only; 11.4 seconds to get from 50 on up to 80, using 3rd and 4th; and, 28.5 seconds to move from 50 to 100 mph. Top speed is well over 100 mph with the 3.31 rear axle (higher with the 2.93), tho there are few places in the country where you could, or should, use this speed.

From the strip we headed on out toward San Bernardino and the Cajon Pass into the Mojave Desert. The 105° heat soon made us wish that Hornburg had installed the air conditioning which he hopes to make available in the near future. The prototype presently can't suck enough air in thru the blower fans and the door windows to make you comfortable in hot weather. (Daninos has since worked out ventilation improvements which have undoubtedly been worked out with the finesse that such things are on this car. For example: if the window pushbutton mechanism fails, you reach into a door compartment, take out a window crank, and wind up the window *manually!*)

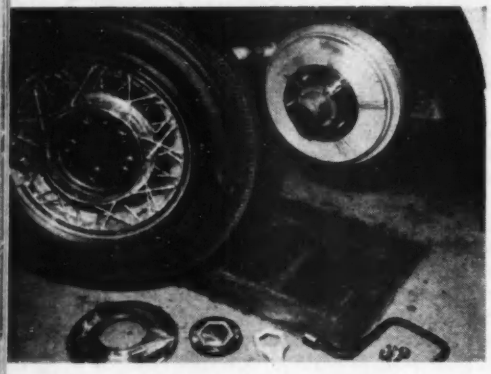
It's a comfortable car to drive for long distances. You sit down deep inside, with the window-sill striking you at shoulder height. If you want, you can pull down the inset armrest in the driver's seat and rest one elbow there and the other on the door shelf armrest. I found, however, that the right armrest got in the way of shifting. The deep-dish steering wheel (on the Vega since it was introduced in 1954) sits in your lap, and tho it doesn't have an adjustable column, it always feels right.

The depth of the photographic wood panel (actually metal) and the number of instruments give you the impression that you're at the controls of an airplane. The center grouping consists of 5 instruments: water temperature, ammeter, clock, fuel gauge, and oil pressure gauge. The radio and heat-vent controls are underneath and within easy reach. The right panel (directly in front of the passenger) has a vanity tray (for holding a Coke bottle and glass) and the radio speaker. To take the place of the glove compartment, there is a large pocket in each door.

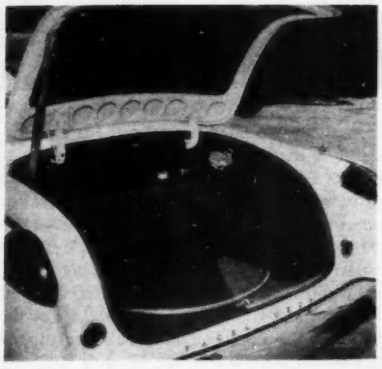
To keep the dash uncluttered by controls, the light switches and wiper controls are on the padded section over the driveshaft (which also serves as a divider between the front seats). Forward of the gearshift knob is an extremely large ashtray. Everything is leather covered, to an almost ridiculous degree. When you remove the ashtray to get rid of the old cigarettes, you find that the area *under* the tray is even upholstered in leather.

Vision is exceptional in all directions, tho the wrap-around makes its usual contribution to distortion. There's a good view both forward and back, making it easy to see out when you're parking. The optional power steering will ease the comparative stiffness in parking and while driving slowly. When you're moving at any speed, the stiffness disappears and you find that the steering correction you make on any but a curving or highly crowned road is infinitesimal. It tracks simply beautifully.

We came back over Angeles Crest Highway, a road that begins at the desert valley floor and weaves its way up close to 5000 feet, then sharply winds its way down into Los Angeles. This is *the* road for testing a car's pulling power, its ability to stay on its own side of the road around hairpin turns, and its brakes. It has all 3 attributes.



Large 11-inch finned drums are nearly 3 inches wide. Both the spanner and socket wrench are supplied



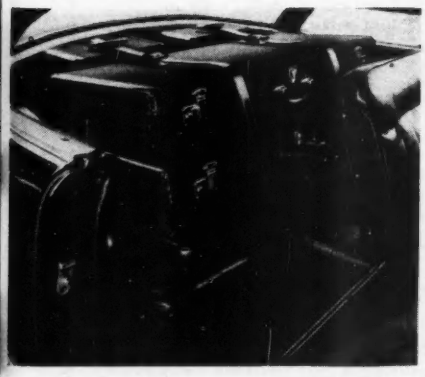
Large gas tank with quick-release filler cap is a prominent feature of the neatly upholstered trunk

Dustproof wheel well is lined with the same rubberized material; tools fit in rubber-lined drawer

Up a grade it keeps going faster and faster, with plenty of power to spare. Around corners it sticks exceptionally well, drifting on all wheels unless you oversteer. Then it will break loose at the back wheels, but a harder punch of the throttle and a slight correction of the steering wheel brings it immediately out of the anticipated spin. The amount of body lean on such corners won't necessarily panic your passenger(s), and you'll have lots of fun taking the Vega thru corners as fast as you can a good share of sports cars. When you have to hit the brakes hard and often, you won't have to worry about them fading. Nose diving is slight and swerves don't occur even when stopping down from extremely fast speeds.

Underneath all this there are a number of interesting chassis features and some that don't quite explain the exceptional cornering characteristics. In the 1st place the chassis has a very rigid, tubular steel frame mounted on coil springs at each front wheel and 2 semi-elliptics at the rear. De Carbon gas filled, tubular shocks are used at each wheel. Each brake has an 11-inch, deeply-finned, aluminum drum, with the front ones being cooled additionally by an airscoop mounted on the forward side. Wheelbase is a reasonable 103 inches and front-to-rear weight ratio is 55 to 45 per cent.

It has many things to recommend it, this Facel Vega, things like its performance, its distinctive looks, its cornering ability. Yet perhaps one of the best features is the fact that you'd be able to get the car serviced at any Chrysler dealer. All replaceable major components are Chrysler-made, the exception being the Pont-à-Mousson box. But, you can have the Chrysler automatic transmission installed on your Vega if servicing the French-built box concerns you. Personally, I'd like to run out and buy one of these gearboxes right now, but I don't know where to get one.



For an extra $600, these 7 pieces of fitted luggage are supplied: 4 pieces in the back seat, 3 in trunk

LE MANS AUSTIN-HEALEY

HAVING OWNED ONE OF THE 1st Austin-Healeys, it's always a pleasure to renew acquaintances with this Donald Healey-designed sports car. In Le Mans form, the '56 model is as hot as our '53 model was with its McCulloch blower.

Changes in this cleanly styled car since it was 1st introduced to these shores have been slight. And it continues to sell well, despite the fact that Austin has not been caught up in Detroit's year-to-year face-lifting whirlpool. Modifications have been made where needed: engine, suspension, and brakes.

The Le Mans Modification Kit consists of 8.1 to 1 pistons (stock ratio is 7.5), a high-lift camshaft, twin 1¾-inch S.U. carburetors with special intake manifold, a modified distributor with automatic advance, a steel-faced head gasket, a racing type anti-roll bar, stiffer front shocks, a louvered hood and Le Mans regulation hood strap.

Power output of this 162-cubic-inch, 4-cylinder engine is normally 90 brake horsepower at 4000 rpm and 150 pounds-feet at 2000 rpm. With the same displacement, the Le Mans kit gives it 110 horses at 4500 rpm and 154 pounds-feet at 2000 rpm.

A welcome change for '56 is the 4-speed gearbox, fitted with the wonderfully responsive Laycock-de Normanville overdrive. This is the way the car was fitted when loaned to us by Roy Jackson-Moore, Austin team driver. With 6 speeds forward, you can just about anticipate any road condition and take advantage of it. Where 2nd gear in the 3-speed box is a long ways (in ratio) from 1st, the 2nd and 3rd gears in the 4-speed box split the difference between low and high, so that you can accelerate and take the corners faster for this reason alone.

Compared to the stock Healey, the Le Mans job really stretches out:

Time or Distance	*Stock 100*	*Le Mans Kit*
0 to 30 mph	3.3	3.1
0 to 60 mph	10.5	8.2
0 to 80 mph	18.0	15.8
Standing ¼-mile	17.5	16.0
		(doing 83.4 mph)

All runs were made with the windshield folded in its flat position, but without benefit of tonneau cover. Engine revs were taken to just short of 5000 rpm in each gear.

The Austin-Healey still continues to handle in its great fashion, largely due to its 50-50 distribution of its 2287 pounds. You can either slide or drift thru a corner, depending on the setting of the wheel or the amount of power you use.

It's always with a bit of trepidation that we approach cars to drive that we've owned (or improved versions of same). We wondered if we were going to be disappointed. Not so with the Austin-Healey. Now we're more than a trifle sorry we sold ours. —W.A.W.

Fast Le Mans Healey receives final tuning by its well-known racing driver-owner, Roy Jackson-Moore

J.C. WHITNEY & CO. NEW LOW PRICES... NEW ITEMS!

NEW SOUND SENSATION
THE MUSICAL ITALIAN BUS HORN
Conversion Kit

Easily installed on all cars without special tools.

Electronic conversion kit that makes your stock horns yodel like an Italian Bus. Splits stock horn sound into two notes—one high—one low—about 10 times a second whenever you hit your horn. Completely automatic. Just 3 simple wire connections. Can be changed from car to car.

State—6 or 12 Volts.
No. 600—POSTPAID ..... Each **$6.95**

HOT SPARK INTENSIFIER

For all Cars. Peps up all ignition systems. Results in faster starting, smoother idling and better gas mileage. Overall improved motor performance. Attaches easily to your present coil without special tools. Also improves high speed performance and stops plug fouling.

No. 319 Each, POSTPAID **$2.49**

AUTO FABRIC SPRAY

For a new looking car interior. Brightens and freshens faded and soiled fabrics. 12 oz. pressurized cans for use on headliner, door paneling and floor covering. Does not rub or fade. Can fix-tone upholstering. Choice of red, rust, brown, tan, dark and light green, dark and light blue, dark and light gray, yellow, maroon, rose and black.

Specify color when ordering.
No. 54. POSTPAID **$2.95**

For 1952-56 FORD All Models 6 Pc. TAIL LIGHT KIT

Given That 1955 Olds "Look" To 52-56 Fords

Kit consists of 2 lenses, 2 chrome rims, 2 adapter plates. Easily installed in place of present rims without drilling or cutting. Can also be welded or leaded to the fender without further alterations. Lenses legal in all states. Adds length to body appearance & styling.

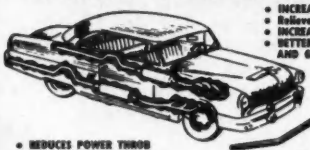
No. 481—52-54 | No. 586—55-56 | **$9.95** POSTPAID

BERMUDA CLANGING BELL

It's the New "Rage"!
Gives a most amusing and commanding two-tone bell sound. Easily installed under car floor by driver's seat. Step on plunger. Highly polished. Fits any car.
Stock No. 49—POSTPAID **$4.30**

EXHAUST HEADER SYSTEMS

- INCREASE HORSEPOWER
- Relieves Back Pressure
- INCREASES SPEED
- BETTER PERFORMANCE AND GAS MILEAGE



- REDUCES POWER THROB
- Heat resisting Paint finish

These sets are the most efficient and finest made—as designed and constructed to:—
- Increase Horsepower at Least 10%
- ELIMINATE BACK PRESSURE
- Give Higher Top Speed • Better Idling
- More Miles per gal. Smooth Performance
- Precision Built for Easy Installation

Superior in every way because they are:—
- Constructed of Heavy Gauge Steel.
- Designed with smoother curves for easy flow of exhaust.
- Ground Flanges for perfect alignment and leakproof installation.

You can install this set in less time because it is made with special tongated holes for easy adjustment. Check our low prices — Order Now!

ALL HEADER SETS CONSIST OF
- Dual Side Tail Pipe • Pair Headers ★
- Clamp Set • Pair Extensions ★
- Easy-to-follow Instructions

Choice of headers without Mufflers, with 2 Hollywood Steel Packed, with regular, or with 2 glass packed mufflers.

★ Chevrolet 6 needs only 1 header & extension & includes built-in heat riser with twin equalize tubes.

CUSTOM DUAL HEADER KITS

VS CAR & YEAR	No. 260 Less Muffler	No. 260 with 1 Reg. Muffler	No. 88 with 2 Steel Mufflers	No. 270 with 2 Glass Mufflers
Buick 53-55	$53.95	$66.95	$68.10	$63.85
Cad. 50-51	44.95	55.28	56.95	....
Chev. 1955	37.48	43.95	47.95	47.95
Chev. 6, 41-56 exc. convert.	36.75	43.95	45.95	46.45
Dodge 53-54	51.38	63.85	63.25	61.40
Ford V8, 35-53	36.45	31.95	36.15	36.35
Ford V8, 54-56	33.45	39.35	43.45	43.35
Lincoln 49-51	43.95	54.95	54.95	....
Lincoln 52-54	40.95	54.95	63.75	....
Mercury 35-53	36.45	31.95	36.15	36.35
Mercury 54-56	33.45	39.35	43.45	43.35
Olds. 49-55	34.45	41.50	45.85	44.35
Studc. 51-53	40.99	44.25	51.25	50.40
Studc. 53-54 Coupes	52.45	58.25	63.15	62.35

Be sure to give make, year, model, body style & state if you have Power Brakes, Power Steering, Standard or Automatic Transmission.

"Hollywood" WOLF WHISTLE!

Intake Manifold Whistle! Gives the Wolf Call, imitates a Barking Dog and other Effects. Simple to install works off the intake manifold.

No. 61—POSTPAID ..... Fits All Cars. Each **$3.42**

REAR-VIEW MIRRORS

Special Curved Convex Glass Gives Curb to Curb Vision — Eliminates Blind Spots — Wider Range of Vision thru the Larger Windows of New Cars. CURVED MIRROR — 2¾" x 10" in Metal Case Painted a Neutral Gray Hammered Finish with a Plastic Rim to Match.

No. 99—Fits all cars. Give exact year, make & model. Each ..... POSTPAID **$2.94**

HIGH COMPRESSION HEAD GASKETS
EXTRA THIN .020" SOLID COPPER

These copper gaskets are only .020" thick. It is the thinnest milling heads .040" to .050", and "hope up" the motor to give amazing acceleration power and mileage. State exact year, make and model when ordering. (If car is V8 type two gaskets are furnished at no extra charge.)

Stock No. 21—POSTPAID **$4.95**

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For Customizing Ford, Merc., Chev., Pont. & Plym.

Specify Car & Year when ordering.

Improves factory hood ornament. Blends perfectly into moulding.

No. 47—Ford 47-54 Merc. 49-51 Pont. 49-51 | Chev. 47-54 Plym. 47-54
POSTPAID each only **$1.95**

No. 482 —Chev. 1955, Ford 1955, Plym. 55-56. POSTPAID ..... Each **$2.95**
No. 483—Ford 1956, Chev. 1956. POSTPAID ..... Each **$3.95**

Lower Ball Joint Stabilizer for Chevrolet 1955-56

A positive and permanent correction for the loose front end condition on 1955-56 Chevrolets. Takes up the slack in the lower ball joint, eliminating road wandering and darting brakes. Avoids costly replacement of ball joint and lengthens tire wear. Immediately stabilizes wheel alignment, allowing ease in steering and turning. Simple to install, in a few minutes, with no special tools. Complete instructions with each pair.

No. 744 —Pair POSTPAID **$8.50**

FLARED FENDER SKIRTS

All metal. Choice of Prime or Chrome Plated finish. Fits following cars:

49-54 Chev. exc. Bel Air	49-51 Ford exc. Bel Air	49-50 Olds 76, 88
46-56 DeSoto	55-56 Ford	46-52 Plymouth
46-52 Dodge	46-54 Fraz.	49-52 Pontiac
	46-54 Kais.	52-54 Willys

PRIME No. 59—Pair **$6.75** CHROME No. 289—Pair **$14.95**

53-54 FORD & MERCURY—prime No. 83—Pair **$7.95**
1955 CHEV., prime. No. 118, pair ... $11.95
1955 MERCURY, prime. No. 119, pair .. $8.50
53-54 PLYM., prime. No. 130, pair ... $8.57
55-56 PLYM., prime. No. 131, pair ... $8.95
CUSTOM CHROME PLATED FLARED SKIRTS for cars above, exc. Merc. No. 148, pr. $14.95

EPOXY PLASTIC PUTTY
For Customizing & Repairing

Forms a steel hard surface without heat or pressure for quick, easy, permanent repairs on metal, glass, plastic, even wood.

This new amazing discovery, called Epoxy by chemists, is furnished in two forms that when mixed turn into a pliable, putty-like substance that hardens—harder than many metals. It will repair holes, fill dents, in auto bodies and fenders—used in place of lead solder in sheet metal repairs—it can be molded or shaped to any desired contour for custom styling—it can be machined, drilled for reattachment of chrome trim or accessories, tapped, reamed, even sawed.

Very easy to use, spread it on with a putty knife—within a short time it will harden into a steel-like surface which can be sanded to a feather-edge and cannot be told from the original surface—it can be finished with lacquers or enamels.

In addition to auto body work it can be used to repair motor blocks, steam and water boilers, leaking water pipes, hot water tanks—also has many household uses.

One pound can with mixing agent, applicator and complete illustrated instructions POSTPAID, No. 734 Lb. **$6.75**

SAFE-STOP FIN-LITE

Now you can drive with extra safety — designed to serve as an auxiliary Stop-light, clearly visible when traffic conditions make conventional stoplight to become obstructed. Streamlined to match the most modern trend. Durable die cast housing with dazzling chrome plate finish fitted with molded Plexiglas lens. Always in sight — 7 inches high — can be mounted singly or in pairs. For all cars, furnished complete with wire, bulbs and necessary fittings for easy installation.

No. 732 —6 Volt } POSTPAID
No. 733 —12 Volt } Each **$3.75**

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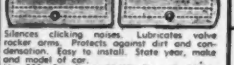
All metal. Choice of Prime or Chrome Plated finish. Fits following cars:

49-54 Chev. exc. Bel Air	49-51 Ford 55-56 Ford	49-50 Olds 76, 88 46-52 Plymouth
46-54 DeSoto	46-54 Fraz.	49-52 Pontiac
46-52 Dodge	46-54 Kais.	52-54 Willys

PRIME No. 59—Pair **$6.75** CHROME No. 289—Pair **$14.95**

53-54 FORD & MERCURY—prime No. 83—Pair **$7.95**
1955 CHEV., prime. No. 118, pair ... $11.95
1955 MERCURY, prime. No. 119, pair $8.50
53-54 PLYM., prime. No. 130, pair ... $8.57
55-56 PLYM., prime. No. 131, pair ... $8.95
CUSTOM CHROME PLATED FLARED SKIRTS for cars above, Except Merc. No. 148, pr. $14.95

Overhead Valve Silencer Pad



Silences clicking noises. Lubricates valve rocker arms. Protects against dirt and condensation. Easy to install. State year, and model of car.

No. 330—Fits Buick 36-52, Chev. 6, 30-56; Ford 6, 52-56; GMC, Willys 6. ..... **$2.69**
51-54. POSTPAID, Each.

No. 331—Buick V8 Cad., Olds. 49-56; Mercury 54-56; Lincoln 53-56; Buick 53-56; Chev. 55-56; Ford 54-56; DeSoto V8, 55-56; Plym. V8, 55-56; Pontiac V8, 52-56; Studc V8, 51-56.

POSTPAID, Per Pair **$4.49**

INSIDE FLUSH FIT FENDER SKIRTS

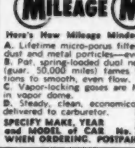
For 1956 Chevrolets & Oldsmobiles

Note the Custom Special Bottom Design!

Featuring the newest flared bottom and spring steel mounting hooks, bolted and adjustable—a new improved locking mechanism. Made from heavy gauge steel—fully die contoured for inside flush custom fit. Durable baked prime finish.

No. 717 —For all '56 Chevrolets
No. 718 —For all '56 Oldsmobiles
Pair **$10.95**

SAVE GAS!



Proven Savings up to 6 Miles per Gal
Gives Better Pickup and Power, Too

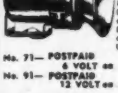
MILEAGE MINDER

Here's How Mileage Minder Works for You:
A. Lifetime micro-porous filter removes all dirt, dust and metal particles—even small as .001"
B. Pair, spring-loaded dual neoprene diaphragm (over 50,000 miles) tames hammering pulsations to smooth, even flow.
C. Vapor-locking gases are harmlessly trapped in vapor dome.
D. Steady, clean, economical flow of gas is delivered to carburetor.

SPECIFY MAKE, YEAR and MODEL of CAR No. 223 WHEN ORDERING. POSTPAID Each **$6.95**

Brilliantly chrome plated.

HI-SPEED ELECTRIC SIREN



Developed especially for the U. S. Navy & Coast Guard. Now used by hundreds of Fire & police departments, buses, ambulances, etc. Complete with bracket, screws, 10 ft. of cable & push button. Green Enamel.

No. 71— POSTPAID 6 VOLT or **$13.24**
No. 91— POSTPAID 12 VOLT or **$13.70**

Porous Bronze OIL FILTER ELEMENT
with LIFETIME GUARANTEE and Built-in Magnesium Acid Neutralizer

Porous bronze Element never wears out or needs replacement. Lasts for a lifetime of the car. Element removes all harmful particles yet retains your expensive additives. Lets you drive up to 10,000 miles without changing oil. Fits all cars except those with Full Flow Oil System listed below. State year make, model of car.

No. 116—Regular **$6.95**.
Element only. POSTPAID **$4.95**

POROUS BRONZE FILTER ELEMENT FOR FULL FLOW OIL SYSTEM — Fits V8 Buick, Olds, DeSoto, 52-56; Plym. 55-56; Ford, Merc. 54-56; Chrys. 51-56; Dodge 53-56; Ford '6' 52-56; Lincoln 52-56; Chrys. exc. V8 46-56; Chev. V8 1956.

State car, year and model.
No. 117—POSTPAID, only **$8.95**

Factory Duplicate — Custom Fit Fender Well Fender Skirts
FITS INSIDE AND FLUSH WITH FENDER

- Same as original equipment. • Perfect fit.
- Prime finish. • Heavy Gauge steel.
- Locking lever handles.

Stk. No.	Car	Type of Bottom	Pair
684	BUICK 50-53	Plain	$11.95
685	BUICK 54 & 55, 2 Door Super & Ramster	Plain	14.95
686	BUICK 54-55, 4 Door Super & Ramster	Plain	12.95
687	Chevrolet 49-54	Plain	11.95
688	Chevrolet 1955	Flared	11.95
689	Chevrolet 1956	Flared	11.95
690	Dodge 53-55 exc. models with fender Shields	Flared	13.95
691	Dodge 1956	Plain	13.95
692	FORD 49-51	Plain	10.40
693	FORD 52-55	Plain	10.40
694	Mercury 52-54	Flared	10.99
695	OLDS 98—1955	Flared	14.95
696	OLDS 1956 All	Flared	14.95
697	Plymouth 53-55	Flared	11.95
698	Plymouth 1956	Flared	12.75
699	Pontiac 49-52	Plain	12.67

Custom Fit for Chev., GMC & Ford
TRUCK FENDER SKIRTS

Precision formed from heavy gauge steel — rattleproof secure locking mechanism, flared bottom, concealed rubber moulding, baked prime finish. Custom tailored to fit.

No. 741 —Ford Pick-Up Express & Panels 53-56 Series F100, 250, 350.

No. 742 —Chevrolet Cameo Pick-Up & ½, ¾ & 1 ton Panels 1956; GMC Suburban & Panel model 100 and 101.

No. 743 —Chevrolet Pick-Up 1956 & 2nd series 1955 model 3100, 3600 & 3800; GMC Pick-Up 1956 Series 100, 150, 250.

Give make, yr., and model. Per Pair **$27.95**

Engine OVERHAUL PELLETS

Complete Cylinder & Ring Job. While you drive! Just drop these pellets into spark plug holes & GO! Stop Oil Burning. Increases Gas Mileage. Restores New Car Power. Makes Motor Run Quietly. Eliminates Exhaust Smoking. Repower your engine the simple, speedy, low cost way. A factory-smooth, metallic layer is plated onto the pitted, scored & worn cylinder walls, & piston rings, restoring them to original size, shape and effectiveness. This is not an oil additive, a chemical mixture or a temporary tune-up.

No. 123—POSTPAID **$4.95**

LEFT FOOT ACCELERATOR
FOR NEW DRIVING COMFORT!

Use the left foot—rest the right foot. Easily installed in any make or model car — with or without clutch. Easy to install — Just clamp on accelerator and tighten screws.

No. 42—POSTPAID, Each **$2.49**

Convert Any Black Tire to Rubber WHITE SIDEWALLS

Not painted on, not cemented on, but a Permanent White Rubber Disc with molded lip that fits between bead of tire and wheel rim. Hugs the tire wall and stays put under all weather conditions. Has the appearance of regular whitewall tires. Can be removed and re-used on different tires. Fits all cars—tubeless or tube tires 5.60 in sets of 4.

No. 441—Set 4—Size 590/15 to 710/15. Each Set Postpaid $9.95
No. 442—Set 4—Size 600/16 to 650/16. Each Set Postpaid $8.95
No. 443—Set 4—Size 760/15 to 820/15. Each Set Postpaid $10.95

MOST MODERN "CADDY" TOUCH Headlight Rim

- Triple Chrome Finish
- No Holes to Drill
- Very Easy to Install

Embodies the new SQUARE LOOK. Tomorrow's look for most cars.

No. 658—Fits All These Cars and Others:

49-52 Buick	49-51 Ford	49-54 Plym.	
48-49 Cadillac	51-53 Henry J	48-54 Pack.	
49-52 Chev.	1954 Hudson	46-53 Willys	
49-50 Chrysler	51-53 Kai-Fraz	and Others.	
49-54 DeSoto	49-51 Mercury		
49-54 Dodge	48-50 Olds.		

For above cars. Pair **$5.95**

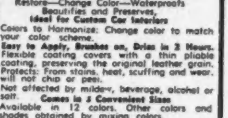
No. 659—Ford 52-53	Chev. 53-54	No. 639—	For above cars. Pair
No. 661—Pont. 55-56	Cad. 49-53	No. 660—	
No. 661—Olds. 52-54	Pont 49-52	Fits:	For the above cars.
			Per Pair **$6.95**

FOR 1955 PLYMOUTHS Rear Fender Fins

durable metal, engineered to fit perfectly. Built in look adds an extra touch of beauty to rear fender streamlining. Easy to install — furnished in dazzling chrome plate or prime finish.

No. 734 —Chrome. Per pair. POSTPAID **$13.25**
No. 735 —Prime. Per pair. POSTPAID **$9.30**

Flexible Leather Coating
NEW EASY TO APPLY



For Leather—Leatherette or Canvas. Restores—Changes Color—Waterproofs Beautifies and Preserves Ideal for Custom Car Interiors

Colors to Harmonize. Change color to match your color scheme.

Easy to Apply, Brushes on, Dries in 2 Hours. Flexible coating covers with a thin pliable coating, preserving the original leather grain. Protects from stains, heat, scuffing and wear. will not chip or peel.

Not affected by milder, beverage, alcohol or salt. Comes in 2 Convenient Sizes

Available in 12 colors. Other colors and shades obtained by mixing colors.

State No. & Color | No. 632—4 Oz. Postpaid $1.00
No. 633—Pint. Postpaid 2.98
No. 634—Quart. Postpaid 5.25

Flexible Plastic Coating

Has the same qualities & application as above, FOR VINYL PLASTIC—Plastic imitation leather such as Duran, Koroseal, Naugahyde Velon, Kaleston, etc. Ideal for Custom Car interiors. Change color to match your color scheme. Restores old Vinyl Plastic materials to like new finishes. Preserves the new

Comes in Convenient Sizes

Available in 12 Colors. Other colors and shades obtained by mixing colors.

Specify Color No. 635 4 Oz. $1.00
and No. 636 Pint. 2.98
Stock No. No. 637 Quart 5.50

J.C. WHITNEY & CO. 1917-029 Archer Ave., Chicago 16, Ill.

USE HANDY ORDER BLANK ON FOLLOWING PAGE →

SATISFACTION GUARANTEED or MONEY BACK — J.C. WHITNEY & CO.

Customized BULL NOSE HOOD MOULDINGS

FOR OLDS $1-56 & MERCURY 55-56

Replaces original hood ornament and gives the car a low, racy appearance. Fits same holes as original ornament avoiding drilling and allowing an easy installation. An economical, easy way of customizing hoods. No leading or painting necessary.

No. 725 —Olds 51-52; 2 Pieces. Per set POSTPAID set $5.49
No. 726 —Olds 53-55; 2 Pieces. Per set POSTPAID set $3.75
No. 727 —Olds 1956; 3 Pieces. Per set POSTPAID set $4.25
No. 728 —Merc. 55-56; 3 Pieces. Per set POSTPAID set $4.25

Handy Trunk Accessory

A cover for your spare tire with convenient pockets for tools, gloves, etc. Keeps them readily accessible — rattle proof. Prevents rubbed, scuffed and dirty luggage. Can be spread on the ground as a clean knee cushion when changing a tire. Also can be used as a fender cover when making motor repairs or adjustments.

Easy to put on or take off — fits over all size tires.

No. 721 —Each POSTPAID $2.39

MELLOW TONE Fiber Glass Packed MUFFLERS

Increases horsepower, increases gas mileage, straight-thru construction, no back pressure, no high pitch irritating noises, deep powerful non-offensive tones. Specify make and model car.

Stock No. 37—POSTPAID .... Each $4.95

MINI Super CHARGER

20% More Gas Mileage by Actual Test. BOOSTS HORSEPOWER. Increases Air-Fuel Charge Efficiency. Greatly Improves Motor Performance.

MINIsuperCharger consists of a revolving impeller "blower" & automatic air "breather" valve which mixes an increased volume of air to the fuel charge with whirlwind force. The improved mixture enters the cylinders in a more powerful highly explosive state — eliminates over-rich mixtures & fuel waste. Better, cleaner combustion, reduced "ping", less oil dilution, less valve troubles and longer engine life. Eliminates "gas lock." Easily installed. Satisfaction Guaranteed.

Specify year, make, model of car or truck and make and model of carburetor.

No. 311— Single throat $ 9.95
No. 312— Double throat 11.95
No. 313— Four throat 15.95

ELDORADO Type WHEEL COVERS

TODAY'S FINEST WHEEL COVER! In SILVER or GOLD. High Fashion Beauty. Ultra Smart Design. Fits all 15" Wheels. Glamour — With distinction — deep contour design accentuates sparkle — stylized, multi-color crest adds fine car distinctiveness.

Luster Bright — Always—world's latest metal development. Revolutionary chemical process ends rusting—positive resistance against salt and tar — can't pit or peel.

Beauty — with a purpose — hides scarred, unsightly rims and ugly balance weights — provides positive protection to valve stem yet novel arrangement makes its easy to check and adjust tire pressure.

Throw Proof — Can't rattle—patented Magic — mount holds under constant tension in rubber cushions eliminate disturbing rattles—proved throw and rattle proof on rugged automotive test tracks. Secret flange attachment makes them practically theft proof. Will fit all 15" wheels on any car. Available in Silver or Gold. Sold in sets of 4.

No. 729 —Silver Finish Per Set of 4 . $27.95
No. 730 —Gold Finish Per Set of 4 . $29.95

DUAL REAR AERIAL KITS

New 1955—Fits All Cars
1. Two 3 section aerials, 13" high when collapsed. Complete with a dual 22 ft. lead. Ready to hook up on any radio.

No. 84— POSTPAID $7.35

2. Dual HIDEAWAY aerials, 6½" high when collapsed. Complete with a dual 22 ft. lead.

No. 231— POSTPAID $12.50

TWIN AERIAL FALSIES—6½" high. Chrome plated. Easily installed. Do not connect with radio.

No. 264—POSTPAID $2.19

Increases Load Capacity 750 to 1500 Lbs. With

Quick Change HELPER SPRINGS

750 to 1500 lbs. Extra Carrying Capacity For Cars, ½ & ¾ Ton Trucks. Don't Let Heavy Loads break the springs on your car or truck. Extra Buoyancy. Spring action increases with load. Extra Strength for Heavy Duty use. Once on they can be installed or removed in a jiffy. For all Cars, except Buick, ½ & ¾ ton pick-up trucks. Has cast base, complete with all "U" bolts, special brackets, necessary parts and installation instructions. 100% Universal. Specify Make, Year and Model when ordering.

No. Extra Load Capacity PAIR
598-750 lb. Extra Capacity. Postpaid $ 9.95
599-1000 lb. Extra Capacity. Postpaid 14.95
600-1500 lb. Extra Capacity. Postpaid 19.95

For All 1956 Chevrolet GAS LOCK

Especially designed to fit the 1956 Chevrolets, locking both the gas tank and hinged rear lamp. Heavy Chrome Plated with genuine Yale cylinder and 2 keys. Easy installation instructions included with each unit. No holes to drill. All you need is a screw driver.

No. 740 Each POSTPAID $2.98

GENERATOR CURRENT INDICATOR

No connections to make! No leads to hook up! For all cars and trucks.

Now you measure the amount of current the generator is producing without "Hooking-Up" or "Breaking into the charging unit." Just hold the meter over the cable carrying the current, the meter read direct. Makes a quick check on generator charging rate. Especially useful on late model cars without wash ammeters. Induction type — measures up to 50 amperes.

No. 749 Each $5.75

Port Hole Lights for Buick

Add Safety & Glamour Add Distinction For all 1953-56 Buicks.

Choice of four brilliant colors —blue, green, amber and white. For either 3 hole or 4 hole models. Complete with all wiring, sockets, bulbs and sturdy plastic lenses. Simple instructions included. Specify color and 3 or 4 hole when ordering. 12 Volt

No.734—3 Hole Models No.737—4 Hole Models
6 Pc. Kit 8 Pc. Kit
POSTPAID $8.60 POSTPAID $9.60

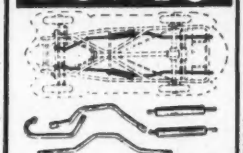
Illuminated PORT HOLES

For all other cars.

Choice of four brilliant colored lights:—white, blue, green and amber. Easily installed — complete with instructions. Can be mounted on front or rear fenders, trunk lid or below the trunk, in a or 12 volt. Specify color and voltage when ordering.

No. 738—6 Volt } Complete Kit, Each POSTPAID $15.60
No. 739—12 Volt }

DUALS



Dual exhaust systems guarantee more horse power, saves your gas, lets your engine breathe properly. Eliminates costly back pressure. Gives your car a real "get-up-and-go" zip". Choice of regular, Hollywood Steel packed or Deep Tone Fiber Glass Mufflers. All custom fit. Easy to install with complete instructions. Be sure to state year, make, model, body style of your car. Also state if you have power brakes, power steering, standard or automatic transmission.

DUAL EXHAUST SETS

CAR & YEAR	No. 265 Less 3 Reg. Mufflers	No. 266 No. 87 2 Steel Mufflers	No. 267 2 Glass Mufflers
Buick 53-56	$15.75	$27.95	$31.45	$35.65
Cad. 50-51 exc. convert	12.85	22.85	24.95	
Chev. 1955-56	11.35	17.89	21.85	21.25
Chrys 51-55 exc. convert	18.75	42.50	34.45	
DeSoto 52-56 exc. convert	13.95	39.65	30.25	
Ford V8 35-53	9.75	13.25	19.85	19.65
Ford V8 54-56	10.85	17.50	22.85	20.75
Lincoln 49-51	14.95	24.95	25.95	
Lincoln 52-54	19.98	40.35	42.75	
Mercury 39-53	10.45	17.35	19.85	20.35
Mercury 54-56	12.65	22.15	23.95	22.35
Olds. 49-53	12.45	19.95	23.85	22.35
Olds. 54-56	12.85	20.95	24.35	22.75
Pont. V8, 55-56	12.35	20.95	24.35	22.25
Plym. V8, 55-56	12.35	19.75	22.45	22.25
Studeb. V8 51-56	10.25	16.25	20.95	20.15
Stock V8 53-55	15.25	21.15	25.95	25.15

REPAIR and RESTYLE with FIBERGLASS CUSTOMIZING KITS

CUSTOMIZE ANY PART OF ANY CAR THE MODERN WAY

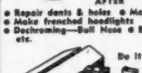
BEFORE

You can Restyle & Customize older cars and make them look like this

AFTER

- Repair dents & holes
- Make Cadillac Fins
- Make frenched headlights
- Air Scoops
- Deckreaming—Bull Nose a Build Hard Tops, etc.

Do It Yourself Kit



Adheres to metal — wood — glass — ceramics — concrete. Use for rebuilding — restyling—or patching.

Many uses for the home too. Now you can customize the modern way with the new Fiberglass material. Tough plastics and resins that reinforce and become as strong as steel. It's so easy and simple to do. Full instruction book included with each kit. No leading, no welding, no soldering, no special tools needed. Fiberglass is acid-proof, waterproof, and weatherproof. Will not rust, rot, or deteriorate. Will not dent. Easily repaired if damaged. Works perfect with metal as it doesn't shrink.

FIX-IT KIT — Covers 3 Square Feet. For car repair, dechroming, customizing. Also useful in home for repairing gutters, water tanks, etc. Includes: 3 Sq. Ft. cloth, 5½ oz. Resin Epoxy, 1½ oz. Hardener, bag of flec.

No. 19—POSTPAID, Each $3.78

CUSTOM GRILLE BAR

Chrome plated heavy gauge steel. Replaces original bars. Gives car New appearance.

State year

No. 300—49-54 Ford. POSTPAID $19.95
No. 301—53-54 Chev. POSTPAID 13.95
No. 302—49-50 Merc. POSTPAID 15.95
No. 303—1951 Merc. POSTPAID 18.95
No. 304—1953 Plym. POSTPAID 18.95

BUMPEREX Newest, Latest, Finest Bumper EXHAUST EXTENSION

Looks just like exhaust comes through your bumper. No holes to drill. Heavy gauge bumper stock steel, triple chrome plated.

Use on either side of car or in pairs. Custom fit for all cars except Studebaker. State year, make, model. 8½" long, 5" wide.

No. 271—POSTPAID. Each..... $4.95

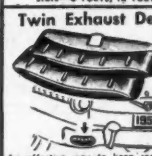
AH-OOO-GAH Chromed HORN

Here it is for the sport car enthusiast. Not a vibrator or other substitute but a genuine motor driven horn.

No. 69—POSTPAID
State—6 VOLTS, 12 VOLTS $12.60

Twin Exhaust Deflectors

For All 1956 FORDS and 1955 FORD Fairlane.



An effective way to keep rear bumper free from exhaust stains. Deflects hot exhaust gases—keeps bumper clean. Made from durable steel—TRIPLE CHROME PLATED. Fits all Fords that have exhaust outlets in the rear bumper. Easily and securely attached. no holes to drill.

No. 722
Pair POSTPAID $2.39

STYLE LEADER CONTINENTAL KITS

★ IT'S NEW . . .
★ IT'S BETTER . . .
★ IT'S TERRIFIC . . .
★ IT'S REALLY PRICED

KITS SUPPLIED WITH SOLID FACE PLATES. (Illus.) IF YOU WANT OPEN FACE PLATES, WHICH SHOWS YOUR HUBCAP, STATE ON YOUR ORDER.

$49.95

Choice of Prima Tire Ring or Stainless Steel Tire Ring.

Complete—Beautifully styled—Carries spare wheel—Not a dummy kit . . . At this terrific price . . . Only by buying in tremendous quantities could we bring you this exceptional Value. This Continental Kit has many features never before found in others. Tire sets at right height to match rear of car. Tire is tilted at correct angle to conform with body lever. Tire tilts back and locks open for easy use of rear compartment. Has rugged construction for durability. Trouble free operation and lasting quality. Has self-adjusting toe-touch locking device, locks in both open and closed positions for easy tire removal. Simple 3 point installation, no holes to drill, locks or gadgets to mount on deck lid, as nothing touches or rests on your car body. Full wrap around gravel shields—20 gauge tire ring and full face plate! Each individual Continental Kit made to enhance your car. Not a universal but a full custom for each car. Entire unit pre-assembled—100% rattle proof. Full easy step by step instructions. All parts baked prime finish for easy painting. Be the first to get this terrific value.

State Year, Make, Model and Choice of Open or Solid Face Plate. With Prima or Stainless Steel Tire Ring.	Car & Year	Stk. No.	With Prima Tire Ring Price	With Stainless Steel Tire Ring No.	With Stainless Steel Tire Ring Price
	Buick 53-56 Spec., Cent., Super, Rdmstr.	642	$ 69.95	643	$ 79.50
	Cadillac 54-55, All	644	86.50	645	96.50
	Cadillac 1956, All	646	122.50	647	132.50
	Chevrolet 49-54	642	62.50	649	72.50
	Chevrolet 55-56	336	69.95	335	58.95
	Chrysler 1956	642	79.50	651	89.50
	DeSoto 1956	642	69.95	643	79.50
	Dodge 1956	642	69.95	643	79.50
	FORD 49-54	642	62.50	649	72.50
	FORD 55-56	336	69.95	335	58.95
	Lincoln 54-56	650	79.50	651	89.50
	Mercury 54-56	642	69.95	643	79.50
	OLDS 54-56	642	69.95	643	79.50
	Plymouth 55-56	648	62.50	649	72.50
	Pontiac 52-54	642	69.95	643	79.50
	Pontiac 55-56	642	69.95	643	79.50
	Studebaker 1956	642	69.95	643	79.50

FULL HEADLAMP TRIM FOR 1955-56 MERCURY

Beautifully Chrome Plated. Adds that debonair appearance and gives that longer lower look. Adds even more beauty to the headlamps and fenders. No. 675—

Pair $12.95

EXHAUST CUT-OUT UNIVERSAL— Fits All Cars

Exhaust tone is controlled from the dash. Can be used as a cut-out in the country and closed in restricted areas. Or may be used to operate two different toned mufflers. Well constructed of heavy plate steel. Straightens the exhaust pipe needed.

No. 66—POSTPAID $3.42

Hurricane Muffler Bi-Pass Unit

Complete with cut out, dash control, cut-in, 48 in., 1¾ in. Flexible pipe, clamps, instructions. Fits all 1¾ to 2¼ inch exhaust systems. Use 2 for dual exhausts. Get that open-pipe roar.

No. 129—POSTPAID $8.70

CUTOUT UNIT ONLY—operates from dash. Easy to install.

No. 64—POSTPAID $3.42

NEW INTERIOR TRIM QUILTED 3-TONE

Beautiful 2 tone heavyweight upholstery fabric in Baroque White and Ebony Black. 3 in. center panel in a choice of Metallic blue, green or flash red. State choice. Easy to follow instruction manual included. No special tools or sewing needed. Install in minutes.

Custom styled Door Panel Upholstery trim for all cars except 49-55 Hudson. Same styling as the newest 1955 & 56 cars. Includes 2 panels 32 x 50 to cover 2 doors.

No. 339
POSTPAID Pair $5.49

Reactor Plug DESTROYS ENGINE ACIDS

STOPS ENGINE SUICIDE

Replaces stock oil drain plug, extends engine life up to 200,000 miles. Magnet draws out all metallic abrasives from engine oil insuring trouble free engine life. State year, make and model of car.

Regularly $2.95.
No. 308—POSTPAID, Each $2.49

Get Your Own Copy of Money Saving New 196 Pages Auto Parts and Accessory FREE! CATALOG

ORDER NOW!

This giant 196 page catalog, packed with over 75,000 items for the automotive, truck, car hot rod and custom car owner . . . is yours FREE with any order for items selected from this advertisement. If you just want the catalog, send only 25c to cover part of handling and mailing cost (refunded on your first order).

USE COUPON BELOW

USE THIS HANDY ORDER FORM — MAIL TODAY!

J.C. WHITNEY & CO. 1917-029 Archer Ave., Chicago 16, Ill.

Please ship following order on money-back guarantee of satisfaction:

Quantity	Stock No.	Description	Price

I Enclose $_____ to cover payment in full (or 25% deposit if C.O.D.)
(NOTE: WE PAY POSTAGE on items marked POSTPAID when payment accompanies order. You pay shipping charges on items not marked POSTPAID. If C.O.D. order, enclose at least 25% deposit; pay balance plus shipping charges upon delivery.)

Name _____

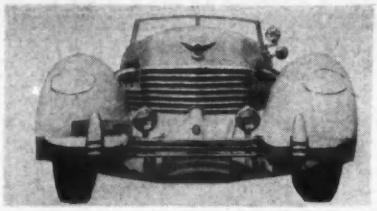
STATE—My car is a _____ Year, _____ Model, _____ No. of Cyl. _____

Address _____

City _____ Zone _____ State _____

☐ Catalog sent Free with your order. Check here if you want Catalog only — Send 25c

J.C. WHITNEY & CO. USE HANDY ORDER BLANK →
1917 029 Archer Ave., Chicago 16, Ill.



CLASSIC COMMENTS

continued from page 43

restrained gauges are 4 airplane-type levers which are the choke, hand throttle, light switch and instrument panel switch. They are easy to see and operate.

The instrument panel, in addition to being beautiful, is extremely functional. The retractable headlights are operated by hand cranks located at each end of the instrument panel. The only item which is remotely difficult for the driver to handle is the right-side headlight control.

Visibility is excellent and it should be. The driver sits high, well forward, and the windshield posts are extremely narrow. It is not difficult to observe the front fenders tho one must guess as to the location of the rear fenders.

As previously noted, the electric preselector has been replaced with a manual shift. The standard transmission is equipped with 4 forward speeds. For city driving 3rd gear is by far the best. Above 40 mph 4th gear is used and it feels very much like an overdrive. If 4th gear is used at speeds below 40 miles per hour, acceleration is poor and you get the same feeling you get when you lug an MG or Jaguar in 4th gear at 1000 rpm. In city tests in 3rd gear the car will accelerate with modern cars and is definitely much faster in acceleration than a majority of the better-known classics.

This Cord 812 had adequate brakes but by modern standards they were spongy. All 4 wheels could be locked during panic stops, altho definite brake fade was noted under severe conditions. This may have been caused by the particular type of lining used on this automobile.

All the controls, including the clutch pedal, operated easily and compared favorably with the average classic, as well as modern cars. If the car were still in production, 3 changes only would be suggested: (a) fewer turns required to crank open the headlights, (b) a larger steering wheel to offset the extremely stiff steering, and (c) increased radiator capacity.

All in all the car handled well, cornered well and was remarkably stable. After a turn was completed the front wheels returned to a straightforward position with no effort on the part of the driver. Naturally the car tended to understeer during turns with power off, but there was no tendency to oversteer during turns with full power on.

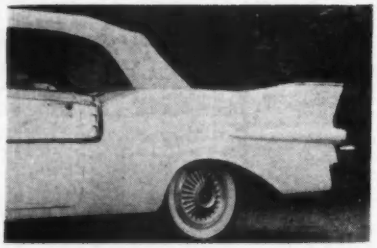
The car definitely handled better than most other classics although most classics surpass its somewhat choppy ride. Turning radius (41 feet) was small considering the 125-inch wheelbase.

Recalling briefly the history of the coffin-nosed Cord, one remembers that the engineers and designers had to build an automobile from the ground up with practically no funds available for development. Window cranks and doorhandles from other automobiles were modified for use on the Cord to avoid expense. This is but one example of the numerous components from other cars which were machined to fit the Cord. With this in mind the construction and craftsmanship were amazing. No detail appeared overlooked; the car was well put together with a fineness that passed on with, and has not been duplicated since, the classic era. From a construction standpoint the Cord easily surpasses even the finest cars built today.

The characteristic rhythmic sound of the V8 engine is music to the ears of any enthusiast. You are always aware of the powerful low purr which is accentuated especially at higher speeds by the blower as it rotates at 6 times engine speed. The horsepower curve seems excellent because at any speed, in proper gear, there is sufficient torque that the driver does not feel something is lacking. After extensive driving, during which we averaged exactly 11 miles per gallon, we were left with the impression that the car was well built of the finest materials available and that it was a true sports car of the middle '30s.

The sports car feeling resulted from the minimum body lean on sharp turns and the minimum nose diving during panic stops. The feeling of sitting behind a long, flat hood which affords excellent visibility cannot be described. To understand it you must drive a well-preserved Cord.

It's tough to understand why production of such a fine car ceased after but 2 years. Total sales of 1174 units in 1936 dropped slightly to 1146 units in 1937. On the other hand, transmission cooling and front-drive difficulties at inception did give the marque a bad reputation. Financial and other circumstances surrounding the car were unfortunate. Basically sound, the Cord is one classic that should have lasted into the future. —R.J.G.



NEW CHEVY?

continued from page 19

Epoxy resin of various brands (all are a kind of plastic-aluminum solder) have been developed to the point where very little, if any, difficulty is experienced.

The tail lights, in their own die-cast housing, come from a current Dodge. Dual exhausts are rerouted through outlets of Allender's own design, simulating an Eldorado, as do the bumper guards added front and rear. Most side trim is stripped from the Chevy, the holes filled, and Eldorado-like replacements of Allender's manufacture are added, along with a saddle molding at the top of the doors. Each car is then painted to the customer's order, in Eldorado colors only.

Two body styles are available—the convertible and hardtop coupe. The latter does not include the Cadillac Seville's cloth-covered top, tho Allender has been toying with the idea of adding a brushed stainless steel cover, as on the Eldorado Brougham. At the $3250 price, cars come equipped with powerpack, power steering, big radio, heater, and white sidewall tires. A recommended extra to further the Eldorado look is the factory (Chevy) continental kit. Any other Chevrolet extra is available at dealer list.

Allender expects to build up his dealer body in major population centers from existing foreign car outlets with contracts already signed in Los Angeles, Dallas, and Chicago. It is not logical for Chevrolet outlets to handle the El Morocco. However, this poses a problem: Allender is the original purchaser in each case and therefore possessor of the owner's service policy, which can't be transferred. He must either work out one of his own or talk the customer into forgetting about it. The standard factory 90-day or 4000-mile warranty (defective parts replacement, not labor) still holds, tho, regardless of how many hands the car passes thru.

The future of the El Morocco seems assured as long as Cadillac and Chevrolet maintain their Mutt and Jeff relationship. Ruby Allender has thought of expanding his basic idea to include other pairs of cars, but there really is no other natural combination in production. For example, a Ford could be made to look like a T-Bird, but it would involve expensive body sectioning. Meanwhile, if you, too, are interested, write R. Allender & Co., 1966 E. Forest, Detroit 7. —D. M.

THOUSANDS OF USERS SAY THEY

GET MORE POWER . . . FASTER PICK-UP . . . SMOOTHER PERFORMANCE

SIMPLY BY REPLACING THEIR "DRAIN" PLUGS WITH MAGNA-POWER

A SURPRISED LOS ANGELES MOTORIST writes: "HAVE HAD SUCH STARTLING RESULTS. . . . I HAVE A HARD TIME BELIEVING IT!"

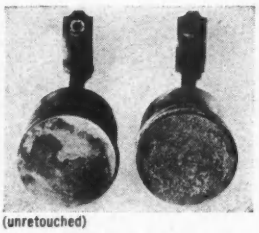
AMAZED CUSTOMERS, NATION-WIDE, ARE WRITING BY THE HUNDREDS TELLING US OF INCREDIBLE INCREASES IN POWER AND PICK-UP, CLEANER OIL. . . . AND UP TO 15% or 20% BETTER GAS MILEAGE THROUGH CLEANER SPARK PLUGS.

MAGNA-POWER IS SO EASY TO INSTALL—JUST SCREWS INTO OIL DRAIN REPLACING THE PRESENT PLUG TO GIVE ACID-FREE OIL FEED. ABSOLUTELY SAFE. NEVER TOUCHES MOVING PARTS.

Take out the old; put in the new! Magna-Power, for cars, trucks, tractors, is installed in a jiffy when you change oil.

(unretouched)

Filter and oil sample (left) from a car using a Magna-Power plug show less sludge and contaminants—both are still clean. Filter and oil sample (right) from car without Magna-Power show normal heavy deposits at same mileage.



(unretouched)

Heavy carbon deposits are actually "baked" on the piston crown (right). Formation of carbon on piston (left) shows remarkable difference when resins are inhibited by Magna-Power. Build-up of carbon causes loss of power and increases oil.

magna-power

Pat. App. for

THE ACTIVE CRANKCASE OIL DRAIN PLUG

(unretouched)

This sparkplug was original equipment on a 1954 Dodge V8 owned by H.J. Collette, Berkeley Heights, N.J. Driven 30,423 miles. Spark plugs never once removed during that time. Note clean, carbon-free points due to use of Magna-Power.

SEE FOR YOURSELF. What looks like inactive shiny metal is actually a solid metal chemical reactant. Using a common acid solution such as vinegar, fill a small tumbler and place Magna-Power in it. See it fizz as acid neutralizer action takes place.

FROM CEDAR GROVE, N.J.:

"I drive a 1954 Olds (Holiday model) of which I am as overzealous as a lioness for her cubs, so I normally don't like to take chances with gadgets —but Win Johns who invented Magna-Power (an automotive engineer with heavy experience) said it couldn't hurt to try it and, although a skeptic at heart I figured he was right. After all, it sits in the crankcase away from working parts—it can't hurt anything. So I tried it.

"Well, after one week, I was surprised at the smoothness, increased power and condition of my oil. I checked myself mentally to see if it was just a psychological after-effect but the oil dipstick test proved otherwise.

"I'm convinced now that acids manufactured by burning gas eat away micro particles of metal engine parts every day. No, I don't intend to keep my car for twenty years but boy, it sure feels good to know that my handsome hunk of machinery is safeguarded against the old abuse of heavy acid wear."

This letter—one of a daily mounting file, is typical of the reaction from users of Magna-Power plugs. From skeptic to expert, this oil drain plug with the active magnesium element and Alnico magnet is winning favor across the continent.

THE CANADIAN GOVERNMENT TESTING BUREAU

gives this report in part:

"Adding certain metals or chemicals to automobile oil will greatly extend its useful life. To the motorist this means that he may be able to drive 7,000 miles or more without changing oil, instead of the usual 1,000 or 2,000 miles.

"Several years of laboratory work have shown that the metals, Lithium, Potassium, Sodium and Magnesium, or some of their salts or oxides slow down the oxidation that destroys and contaminates motor oil. The National Research Council suggests that a piece of one of the metals could be placed in direct contact with the engine oil by attaching it to the car's oil drain plug . . ."

MAGNA-POWER STOPS ACID WEAR

The easiest and surest way, today, is to use a solid chemical neutralizer attached to your oil pan drain plug. The Magna-Power is a drain plug with a rod of a special alloy of magnesium, which is by nature an alkaline metal. Acids much prefer this magnesium to other metals in the engine; but in eating it these corrosive acids are destroyed. There is enough alloy to last at least 75,000 miles.

MAGNA-POWER SAFEGUARDS AGAINST THE ENEMIES OF ENGINE LIFE

Quickly installed in the crankcase of your car, Magna-Power quietly goes into action against destructive acids and flying metal splinters. How does acid get into the oil? Each 1,000 gallons of gasoline contains about 6 lbs. of sulphur, ample enough to make 5 gallons of strong sulphuric acid. As the gas burns, destructive gases of sulphur and other acid-laden gases are made.

Partly burned gasoline also makes "fatty" oils" that are attacked by the strong acids. As they are destroyed, they form gummy varnish that cause sludge and engine deposits. Water (you've seen it drip from the exhaust) made by the engine activates the acids into a truly destructive force against metal.

WHY MAGNA-POWER IS NOT ORIGINAL EQUIPMENT

A new car, or one that has been rebuilt, should go through a break-in period. During the auto's first 1000 miles rings are seated and the new engine, through a small amount of necessary wear, "loosens up" for maximum efficiency. The time to install Magna-Power in a new car is at the end of the break-in period when you change oil.

TRY MAGNA-POWER AT OUR RISK

Ask your garage or gas station to get one, or fill out the coupon at the bottom of this page and mail it to us today. If you are not satisfied with the way Magna-Power works, send it back at any time (years from now, if you choose) for an immediate refund.

Magna-Power, $2.95 postpaid, is available for American cars, trucks and tractors, as well as popular foreign autos. Canadian orders filled from Toronto stock . . . $2.95 each, tax incl. Canadian checks, money orders or cash accepted. Indicate year, make of vehicle with all orders.

MAGNA-POWER — THE *ORIGINAL* ACID-NEUTRALIZER

Johns Mfg. Corp., Dept. M-9, Middlesex, N.J.

JOHNS MFG. CO., DEPT. M-9

MIDDLESEX, N.J.

My car is a ..... (make) ..... (year).

Please send me, postpaid, a MAGNA-POWER acid neutralizer. I enclose $2.95. I understand that it is sold with an unconditional guarantee of satisfaction or my money back!

Name.....

Street.....

City.....State.....

Motor Sports

by Paul Sorber
Sports Editor

Well, Well, What Do You Know? . . .

LAST MONTH we reported the details of Chevrolet's successful attempt at a new 24-hour U.S. Stock Production Car Class record with the '56 Chevy 210 sedan that resulted in an average of 101.58 mph for 2438 miles. In the heat of the moment's excitement, we inadvertently omitted the fact that the record run was accomplished under NASCAR supervision. Both NASCAR and Chevy are breathing sighs of pleasure at the results of Pikes Peak. Widespread criticism of the NASCAR-Chevy Pikes Peak Hill Climb record attempt on September 9th, 1955, will be effectively squelched by the times turned on Independence Day. (See page 60.)

You may have read that the DeSoto pace car was wrecked at Pikes Peak. What you didn't read was the reason. Driver Lloyd Faddis deliberately drove it into the side of the Peak, ostensibly because the engine was badly overheating. This bit of quick thinking was actually a cover-up for the fact that the DeSoto couldn't possibly have beat the 19:39.4 pace car record set last year by Dodge. At least, not on that run.

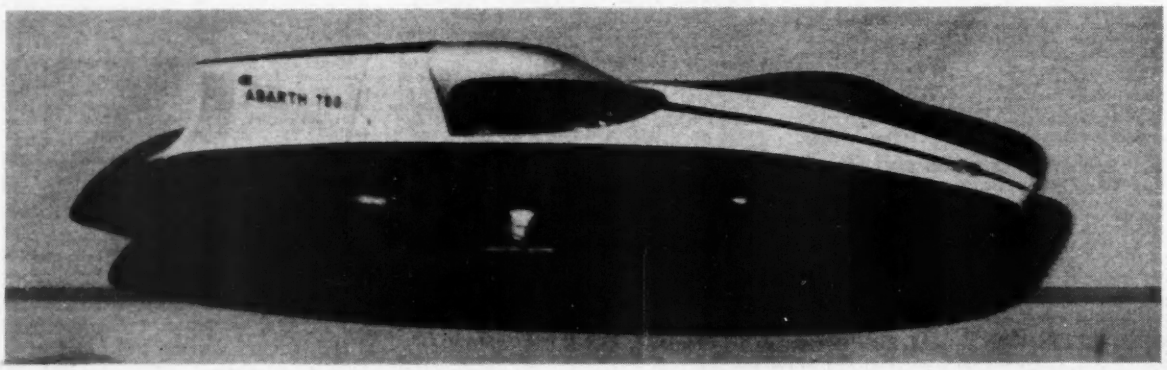
While we're on the subject of records, the Ford Motor Co. now has a statistic for their advertising department to crow about, but not too loudly. A 500-mile average speed of 107.126 mph was achieved with a '56 Ford at Indianapolis recently. This time it was USAC that did the supervisory work, tho we suspect them of more overlooking than overseeing. You can bet that Ford won't advertise the true facts. Actually, Ford was engaged in an assault on the 24-hour record that would give them the Stevens Trophy. Then the crankshaft failed. At this point, Ford and USAC officials decided to fabricate a record from the run so far. Tho the crankshaft failure was an extremely rare and unfortunate occurrence, the cover-up is obviously a patent breach of ethics, and inexcusable. This forces us to ask ourselves, "What do these records mean, exactly?" Not very much at all, except that Fords and Chevys are pretty fast. But, then, so are a lot of other cars.

Beginning with the Daytona Speedweeks, the automobile manufacturers have shown an increasing tendency toward using all kinds of real or synthetic figures in their advertising. Even the so-called "Stock Car" races are a peculiar joke. If stock really meant *stock*, just like when the factory made the car, there wouldn't be any decent NASCAR and USAC stock events. The most significant races in a long time, for U.S. production cars, will be the Elkhart Lake events on the weekend of August 11th and 12th. A more ludicrous sight could hardly be imagined than really-stock, random-selected cars on that circuit.

Four-Way Catastrophe . . .

Last month, this department was the scene of 4 fine blunders which ought to be corrected. The calendar listing of the SCCA Continental Divide Rally, September 27th thru the 30th, gave its starting point as Durango, Colo. That's not right. The base of operations will be the city of Glenwood Springs, which is roughly 220 miles north of Durango. Oh well.

Goof No. 2 was far bigger. The FIA will *not* sanction the Elkhart Lake stock car road race on August 11th and 12th. NASCAR is the sanctioning body, and the FIA is only *recognizing* this particular event. That is, they'll admit that there is a race at Elkhart Lake's Road America course and will allow



GORDON WILKINS

Traveling over 100 mph, the Abarth-Fiat 750 streaks down the straightaway at Monza, Italy, on its way to capturing a grand total of 9 international records

FIA-licensed drivers to compete, unless they are previously committed to racing in European meetings at about the same time.

The Saturday 100-mile race is open to production U.S. and European sedans, with the 15 front-running cars competing on Sunday with the 45 overall-fastest-qualifying cars. A total of $18,500 in prizes will be awarded for the 2 days of racing, which is the biggest purse ever paid for a single stock car road race event in this country.

And, of course, there's the Vanwall mess-up. Tony Vandervell's Vanwall Special wasn't invited to the 24 hours of Le Mans because it is an International Formula I machine, and not a sports car. The Club de l'Auto de l'Ouest organizes and runs the world's greatest *sports car* endurance race: The 24-Hours of Le Mans. Sure wish there were some excuse for this one, but it's really just a case of not making sure the brain was engaged after back-shifting the typewriter.

Some of you may also have noticed that the Porsche Spyder illustrated as being driven by Pete Dunn is, in actuality, a Porsche *Speedster*. Obviously.

Flying Flyweights . . .

Both the Abarth-Fiat 750 and the Nibbio II, (page 32, July MOTOR TREND) have succeeded in their attempts at a multitude of world speed records. The average speeds (see table)

ABARTH-FIAT 750 RECORDS

Distance	Time	Speed
3000 miles	33:18:24.8	90.068 mph
5000 kilometers	34:26:27.8	90.206 mph
6978 kilometers	48:00:00.0	90.343 mph
5000 miles	55:26:53.0	90.174 mph
10,000 kilometers	71:05:39.4	87.401 mph
10,125 kilometers	72:00:00.0	87.384 mph

Records made previously with this car

3000 kilometers	98.556 mph
24 hours	96.924 mph
4000 kilometers	97.157 mph

don't seem very impressive at 1st glance, but a new light is shed by the realization that the Abarth-Fiat engine displacement of 45.63 cubic inches (747 cc) is almost exactly the displacement of *one cylinder* of a '56 Cadillac V8! This ridiculously minute Class I mill was modified by Carlo Abarth from an even smaller, stock 600 cc, 4-cylinder Fiat block. It has a bore and stroke of 2.40 by 2.52 inches, sports a Weber carburetor, and develops nearly 43 hp at 5400 rpm.

The beautiful bodywork was executed by Bertone from a design by Scaglione, but all other components are stock Fiat 600 items. Suspension, brakes, wheels, and 5.20 x 12 Michelin X tires: all stock. The record attempts at Monza, Italy, will have to be recognized by the FIA before they become official. These successes were not achieved on the 2.6-mile steeply banked course without incident. Another *super*-special engine was originally installed and, as U.S. rodders sometimes do, the Abarth team blew it up (after several hours running). Working like crazy, they installed a "stock" Abarth-modified Fiat engine (a model sold publicly in quantity), and started over. The new mill was "run-in" at 95 mph during the record run and, after 72 hours, was still capable of moving the car over 100 mph in the straight.

When the battery was broken at a pit stop, it became necessary to continue without lights, since only parts carried on the car may be used for repairs. Lanterns were placed along the straights as guides, while the curves were negotiated in nearly total darkness (requiring about 30 seconds, at speed) by the pale light of the moon, depending on the steep banks and centrifugal force to keep the car out of trouble. The drivers formed a truly international cast: Frère, Belgium; Honegger, Switzerland; Wilkins, England; Thiele, U.S.; plus Lurani, Della Beffa, Cattini, and Poltronieri, all from Italy.

The Nibbio II, with an even smaller 21.35-cubic-inch (350 cc) modified Moto-Guzzi motorcycle engine, had just previously stormed around the same course. Under the guiding hands of Johnny Lurani, the Ghia-bodied Volpini chassis averaged 81.52 mph to break the 3-hour Class J record formerly held by Adolph Brudes in a German Lloyd at 74.56 mph.

Make Your Plans, Now . . .

NASCAR president Bill France has announced that the 8th Annual International Safety and Speed Trials and Stock Car Races, known familiarly and more conveniently as *Daytona Speedweeks*, will be held at the long Florida beach from Sunday, February 3rd, thru February 17th. Plans for the specific events haven't solidified as yet, but specifications and classes for competing cars will be announced shortly.

What About the '57 Indy Rules? . . .

Announcing things "shortly" is a really handy way to goof up the works, as is evinced by the Indianapolis Speedway Commission's continually postponed announcement of specifications for next year's Indy 500. NASCAR is usually quite prompt, but the Indy group has been hassling around since January, with no result but many ulcers for the car builders. A meeting has been called for July 21st and 22nd, and possibly an announcement will have been made then (just 3 days after we go to press). We will hazard a prediction, however, and state that Meyer-Drake engines will run next year, virtually uncontested, in spite of public pressure for new displacement limits. Allowing Detroit-based engines to compete is extremely desirable, even necessary, but the owners have too great an investment for a radical change at this "late date."

Bahamas Bash . . .

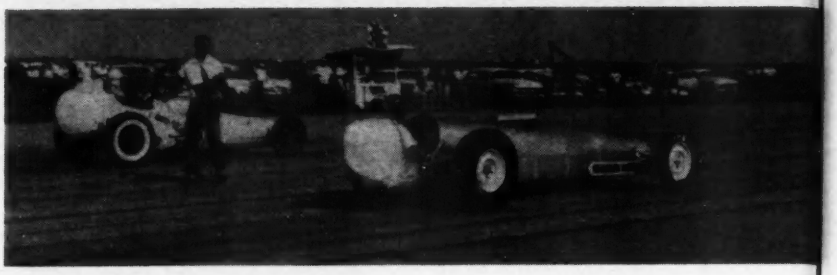
If you haven't taken a vacation yet, the place to go is Nassau, in the Bahamas, during December 3rd thru 16th. Both the Nassau Trophy Road Races and the International Nassau Regatta will take place on these dates, and a more beautiful setting for equally fabulous speed exhibitions can hardly be imagined. The 3rd Annual *Bahamas Speed Weeks* will kick off with the road races, for world championship points, on the 3.5-mile Windsor race course. Applications for 78 cars are already on file, with many more expected. Average speeds (for 200 miles) have reached a fascinating 98.67 mph in past years. Of special interest is the entry of Richard Thompson's Corvette, indicating the 2nd competition of a Corvette in a race listed on the FIA International Calendar. There will probably be more Corvettes entered later, and their performance will be carefully scrutinized.

After the road races are over on the 9th, the 1st Annual International Nassau Regatta will commence on sheltered Lake Cunningham, where an accurately surveyed course has been provided, with mile straights and ¼-mile turns "sufficient for a good try at the existing records." In addition, a 3-mile straight is provided for world record attempts in all classes. Union of International Motorboating rules will apply, and the fastest boats in the world will be there. Wish you could be there, too? Address inquiries to Capt. Sherman F. Crise, Dept. MT, Box 137, Hopatkong, N.J., U.S.A.

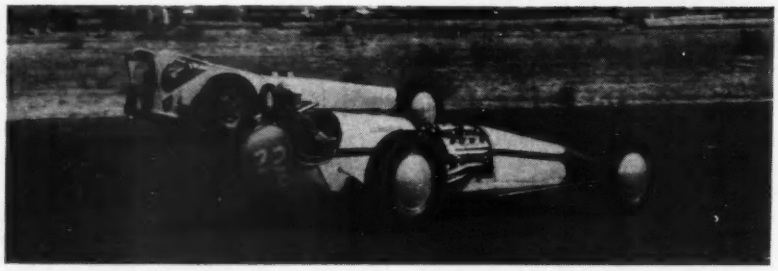
We wish to congratulate Rudolph Uhlenhaut on his 50th birthday anniversary, July 15th, and for his momentous contributions to motoring as Director of Research for the great firm of Daimler-Benz, A.G.

The VW Autoist . . .

This *sub*-title is also the *title* of the official publication disseminated by the Volkswagen Club of America, Box 43, Leonia, N.J. As you will note, the club's name has been changed since we printed its address last month. This prudent move was made to avoid the alleged ambiguity occasioned by the letters VW, which are admittedly not as well known (yet) as Chevy and Olds. Also, VW Auto Club of U.S. was incongruously translatable as Peoples Auto Auto Club of U.S. Finally, the club became aware of the fact that "America" embraced 2 continents, rather than one little old country. No matter where you live, tho, it would be a dandy idea for you to join up right away, new or old-time owners alike. International affiliation with



Oklahoma's hope for the National title is young Mel Heath, left, whose Chrysler-powered dragster won the NHRA Southwest Regional Championship at Dallas, Tex., with a speed of 137.19 mph in an elapsed time of just 10.58 seconds for the standing-start quarter mile. This event was one of 9 staged as preliminaries to the national drag meet



Two of "the nation's hottest" drag it out as a preliminary to action at the forthcoming National Championship Drag Races at Kansas City, Mo., August 31st thru September 3rd. The Yeakel Bros. Cadillac-engined dragster, left, shows much promise toward being the Los Angeles area's leading contender to topple Cal Rice, right, from his position of National Champion

COURTESY HOT ROD MAGAZINE

Akron, Ohio, fans think their Art Arfons, left, could be the next National Champion. His aircraft-engined "Green Monster" dragster turned in the top speed at the National Hot Rod Assn.'s Northeast Regional Championship meet held at Fulton, N.Y. Art hit 143 mph just 11.36 seconds after he started down the strip with his 2000-horsepower, 5000-pound bomb

foreign VW clubs, useful advice, repair hints, performance modifications, sales news, and jibes at Detroit; all find their way into the monthly journal. Social events are already being held thruout the nation; so band together, VW-ites, if only for protection from the Detroit iron!

Formula II, Made for You . . .

Beginning on January 1st, '57, the FIA will recognize a new kind of racing machine: the Formula II car. This need not conform to the many restrictive specifications for sports cars. The only confining rules concern the engine: it must have a displacement of less than 1500 cc (91.53 cubic inches) and it may not be supercharged. Otherwise, you have a free hand with weight, body, frame, suspension, fuel, etc., within broad limits.

Reviewing the Race Results . . .

Pikes Peak was surmounted, on July 4th, with a wide range of times for the records. In the U.S. Production Stock Car category, '56 Chevys led the way, with Jerry Unser, Jr., and Bob Korf hauling the hill in 16:01.0 and 16:21.6, respectively. Following were Herb Bryers (Plymouth Fury, 16:24.1, 3rd), Chuck Stevenson ('56 Ford with Fordomatic, 16:27.1, 4th), Nick Sanborn ('56 Chevy, 16:31.3, 5th), and one more Chevy, driven by Marshall Teague at 16:37.2, to put 4 Chevys in the leading 6 places.

Young Bobby Unser wound his Jaguar-engined Pikes Peak Roadster up the hairy mountain in a fantastic 14:27.0. Bob Finney, Slim Roberts, and Pete Woods had a go at shortening this time, but couldn't beat, or meet, it. Finney's Lincoln mill pulled the hill in 14:28.1, Roberts' Chevy-6 in 14:36.9, and Pete Woods' 270-cubic-inch Offy made it in 14:51.8. What next (year)?

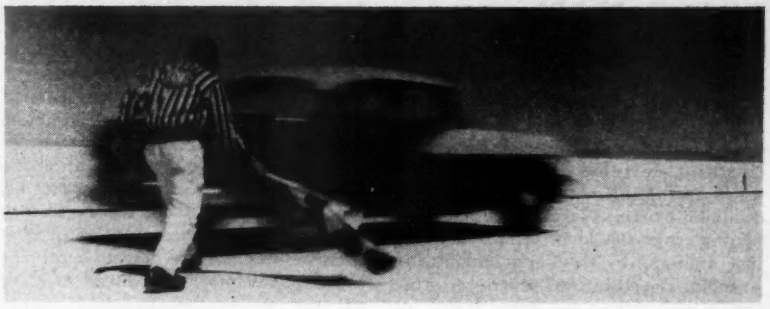
Away down South in Darlington, on the 4th of July at the ol' Raceway, the Pee Dee 200-miler was Pat O'Connor's race in the Sumar Special. In lap 12 he passed the Bowes Seal-Fast Special's pilot Johnny Boyd, the 2nd-place finisher. Red Amick, 3rd musketeer, took the flag on the same lap in the Central Excavating Special. O'Connor set a new record for the event in 1:36:17 at an average 124.883 mph, to break Manuel Ayulo's 123.012-mph mark set in 1954. In qualifying, Andy Linden replaced Bob Sweikert's old 132.289 mph with 133.039 mph, as a new qualifying record.

Elkhart Lake's Road America was the scene of the SCCA National Championship Road Races on June 23rd and 24th. Of the 6 races, 3 were of particular interest. The 1st race, Classes F and G (100 cc to 1500 cc) saw Carl Haas in an out-and-out win, followed by Bob Ballenger, both in F-Class Porsches. Overall 3rd, and 1st in Class G, went to Bill Wuestohoff in his Alfa-Romeo Giulietta 1300 cc bomb, with Skip Lange 2nd in G with another Giulietta. The 45-minute Class C race ended with a pair of Corvettes, piloted by Bark Henry and Fred Windridge, in the 1-2 spots and Bill Larson's Jag in No. 3 position. Lastly, for Elkhart, the big Texan, Carroll Shelby, tooled the 4.4 Ferrari home ahead of Louis Brero and Ernie Erickson, the latter 2 mounting D-Jaguars. Shelby's winning average speed of 80.04 mph was tops for the meet.

The Pomona Road Races, also held June 23rd and 24th, were actually located on a newly paved asphalt circuit laid out in the parking lot of the Los Angeles County Fair Grounds. This 1st annual event boasted 2 especially interesting events. The race for modified cars under 1500 cc displacement was swept by 3 Porsche 550 Spyders, in a somewhat ridiculous manner. Ken Miles lagged but a second behind Richie Ginther as they swept past the checkered flag in John von Neumann's super-special Spyders, recording an average speed of 79.00 mph for 80 miles. Owner-driver John Porter picked up 3rd-place laurels in his Spyder. These 1st 2 cars are disgustingly fast, for some unknown reason. In the over 1500 cc race, the finishing order was a bit surprising. The win went to Bill Murphy in his Buick-Kurtis special, place to Harrison Evans in a Ferrari Monza, and a good show to Bill Krause, tooling a D-type Jaguar. Murphy, a Los Angeles Buick dealer, quite adequately demonstrated his progress in perfecting his car and driving by winning with a 23-second lead (at an average 81.40 mph) that could certainly have been much larger, if the need had arisen. The '56 Buick engine is ultra-modified, including "borrowed" experimental '57 Buick heads, fuel injection, and many other changes, all of which are shown in September's HOT ROD Magazine. —P.S.

Speed on the Salt . . .

by Ab Jenkins



SETTING new records for the stock cars on the salt flats with the Pontiac was no surprise to me. Our record of 118.337 mph for 24 hours endurance was pretty much on the nose of what I had planned.

I first met up with the 1956 Pontiac while visiting my good friend, the late Lou Moore, during the NASCAR speed trials at Daytona Beach this spring. I told Lou that I thought I could break some records on the Bonneville Salt Flats and Lou concurred. Pontiac was quick to respond and asked that Lou and I come to Pontiac at the earliest possible time. Regretfully, a few days before our date at Pontiac with George Delaney, chief engineer, Lou had a heart attack in Atlanta and passed away. We delayed the appointment several weeks and I came to Pontiac alone.

The decision was favorable and I immediately came home to Salt Lake City to arrange for a schedule to use the flats, and for NASCAR to supervise the run. Early in June, NASCAR officials, including President Bill France, came to Pontiac, checked the 2 stock cars and sealed them. They were then shipped to Salt Lake City and locked in a garage.

We then started laying out the 10-mile circular track. When this was completed we made a few trial runs on June 21st and 22nd, checked the weather and decided to make our run on the 25th. We first made a 100-mile run and broke all records from 1 to 100 miles with an average speed of 126.02 mph.

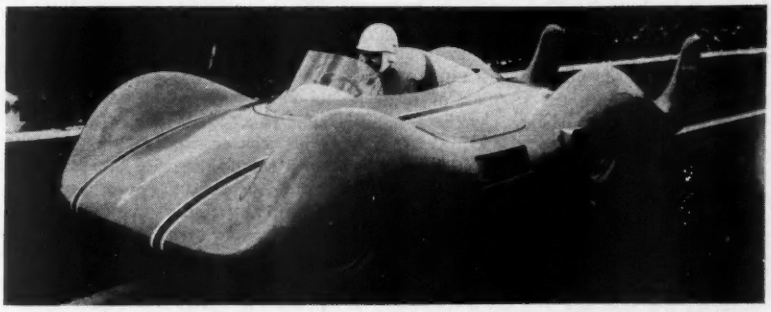
Then at 9:56 A.M. on the 25th, we started our 24-hour endurance run.

The car took the great circle with such ease that I—and I am 73 years old—never stepped out of the car for the first 9½ hours. We were averaging a little over 120. My son, Marv, a little less than half my age, relieved me part of the run, but I drove over 18 of the 24 hours. During the day temperatures got up to over 130° in the sun. During the night they dropped down to about 60°. A 20-mph wind also sprang up, which cut down our time. Then a wet spot developed at about a mile and a half from the edge of the circle, further slowing us up.

At this high temperature and high speed no water was added to the car. Only one quart of oil was added as a precautionary move, for in checking at the end of the run we found we did not need the added oil.

I can't speak too highly of the wonderful cooperation given me by NASCAR, Continental Oil Co., Firestone and Pontiac.

The car I drove was an 860 2-door stock Pontiac, 285-hp engine. It was fully equipped, including radio, heater, and defroster. Our pit stops were short. The boys gassed the car, cleaned windshield and headlights, checked the oil and tires in as low as 23 seconds. We averaged 7 mpg at high speed. —A. J.



This strangely streamlined vehicle is shown at Montlhery, France, and it's a Renault! The powerplant is a gas turbine which develops 266 shaft horsepower, and weighs only 395 pounds. Total weight is but 2090 pounds, and the car is expected to reach speeds in excess of 125 mph. The whole car is a test bed; nearly every part is in the experimental stage

what's coming up?

august

12, NASCAR 250-Mile Grand National, Elkhart Lake, Wis.
18, USAC 100-Mile Championship, Springfield, Ill.
18-19, SCCA Races, Arcata Airport, Calif.
18-19, APBA Gold Cup Regatta, Detroit
18-19, CSCC Races, Paramount Ranch, Calif.
19, Grand Prix of Switzerland, Berne
19, NASCAR 250-Mile Grand National, Bay Meadows, Calif.
25-26, USAC 100-Mile Midget Race and 250-Mile Championship Race, Milwaukee, Wis.
26, FCSCC Races, Tillamook, Ore.

september

1-2, SCCA Races, Thompson Raceway, Conn.
1-3, CSCC Races, Santa Barbara, Calif.
1-3, NHRA National Championship Drag Races, Kansas City, Mo.
2, Grand Prix of Europe, Monza, Italy
3, SCCA Races, Stillwater, Okla.
3, NASCAR 500-Mile Grand National, Darlington, S.C.
3, USAC 100-Mile Championship, DuQuoin, Ill.
8, USAC 100-Mile Championship, Syracuse, N.Y.
8-9, SCCA Races, Elkhart Lake, Wis.
8-9, SCCA Races, Ellensburg, Wash.
15-16, Watkins Glen Road Race (?), N.Y.
15-16, Lake Trials, Pacific SCC, Calif.
15-16, MGCC Races, Elkhart Lake, Wis.
15-16, YVSCC Races, Ellensburg, Wash.
16, NASCAR 300-Mile Race, Langhorne, Pa.
16, NASCAR 300-Mile Convertible Race, Memphis, Tenn.
22-23, CSCC Races, Hansen Dam, Los Angeles
22-23, Reno Rally, Reno, Nev.
22-23, FCSCC Races, Tillamook, Ore.
23, NASCAR 250-Mile Convertible Race, Martinsville, Va.
27-29, Continental Divide Rally, Glenwood Springs, Colo.
29-30, SCCA Races, Sacramento, Calif.

october

6-7, SCCA Races, Thompson Raceway, Conn.
13, Narragansett SCC, Newport Time Trials, Conn.
14, SCC of BC Races, Abbotsford, B.C., Canada
20-21, SCCA 11th Sewickley Hillclimb, Steel Cities, Pa.
20-21, SCCA Races, Smartt Field, St. Louis, Mo.
28, SCC of BC Hillclimb, British Columbia, Canada

november

1-4, SCCA Appalachian Rally, Hershey, Pa.
3-4, SCCA Races, Palm Springs, Calif.
18, SCCA Hare and Hounds, Steel Cities, Pa.

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TUNE-UP TRAPS

continued from page 39

personally inspect the block, tho. *Maybe* only the head gasket needs replacement.

Next, the basic electrical circuit should be inspected. Without a good supply of electricity, even the most carefully adjusted engine will not function well. The condition of the storage battery and connecting cables should be verified as excellent, followed by the starter circuit and solenoid. The starter and generator wiring should be checked for loose, frayed, or shorted connections. There is little a mechanic can (or should) do to a functioning voltage regulator, as most of them are sealed at the factory. However, he should tighten every bit of wiring to and from the regulator (particularly the ground cable attachment to the car body) after inspecting for corroded terminals.

Low-tension (or primary circuit) ignition wires and fittings are next on the factory check list. These are all the wires running to or from the coil and distributor *except* the fat rubber wires (secondary circuit) feeding the sparkplugs and coil. The coil case and distributor must be cleaned of all grease and dirt. Cleaning the distributor cap and the sockets for sparkplug wires is a must, as they corrode and reduce the flow of electricity to the plugs. Inside the cap there are often layers of hardened oil, gum, carbon, or metal fragments, all of which can (and do) short out or reduce the strength of the spark in engine combustion chambers.

Ask Questions

Up to now there is little chance for an unscrupulous mechanic to cheat you, unless, of course, he really goofs off and ignores the preceding operations. You can check his efforts by asking about the compression test readings and inspecting the screw slots of low-tension wire terminals to see if they have been recently tightened.

Inside the distributor is a movable round plate on which the breaker points are mounted. If this breaker plate is controlled by a vacuum advance mechanism, it can be moved in only one direction, against spring tension. When released, the plate should snap quickly back to its original position. If it doesn't snap back, the springs are broken or the bearing is sticking. Vacuum-controlled breaker plates should move as the engine is cranked with the choke plates closed.

Points and condensers are the most replaced items in engine tuning. Both are inexpensive and, when faulty, do a fine job of shattering engine performance. Checking a condenser is done on test apparatus most mechanics do not have. Therefore, as a condenser is such a cheap little gadget, they just replace it every time new points are installed. However, a clean condenser can appear new. Unless you have marked the old one or know the mechanic well, there is no way to be sure it is the new unit listed on your bill. Points, thank goodness, are different. They burn and create peaks and pits visible to the naked eye. If the breaker points are a dull gray on the mating surfaces, and fairly smooth—do not replace them. There is no real need for new points. Such re-usable good points may need touching up with a point file to remove the small peak that forms on one contact. Use of sandpaper or emery cloth is frowned on as particles of abrasive stick to the points, burn, and imbed themselves in the metal to create an area of high resistance which will make the points burn out faster than ever.

The high-tension (secondary circuit) wires and connections should be checked for cracks and corroded terminals. Weary old sparkplug wiring is often faulty, and no amount of fine tuning will smooth the resulting rough engine. For a check, run the engine at night, and look for arcs or other indications of leaky insulation. The rotor inside the distributor cap has a brass contact on its outer end, which passes the spark to a number of brass plugs inside the cap. Both the brass rotor tip and the cap plugs should be scraped with a dull knife to remove corrosion and metal fragments. Poor tune-up mechanics will do little more than wipe off the distributor cap with a greasy rag.

Sparkplugs Need Care

No one is fooling who recommends that sparkplugs be cleaned frequently. For points on plug condition, see "The Spark of Life," page 34. When setting the distance between electrodes (plug gap) the mechanic should use wire gauges. Now, a few dishonest mechanics have been known to substitute rebuilt sparkplugs while charging for new ones. But did you know that these same characters will clean off *your* old plugs and replace them?

Timing the spark to fire each cylinder at the proper moment, thru the use of a neon timing light, is where many a good tune-up job goes wrong, if only because the mechanic thinks he knows more about engines than the factory designer. Your new car's spark should be set very close to exact factory specifications, due to improvements in the anti-knock gasoline rating or quality.

"So that's how they do it!"

Carburetor maintenance seems to be another place where so many otherwise fine mechanics fall flat on their faces. Many men will ignore the conditions of fuel, vacuum, and distributor control lines, all of which must be tight. And flange nuts should hold the carburetor base to the manifold without the slightest suggestion of an air leak. Rebuilding or "boiling out" the carburetor is one of the best opportunities a dishonest mechanic has to cheat you. "Boiling out" means to take the carburetor completely apart and soak the components in a special carburetor cleaner. This removes any varnish or gum that forms in small passageways to reduce gasoline mileage. A completely phony "boil job" consists of removing the carburetor, brushing the outside with cleaner and replacing the carburetor with a nice new manifold gasket. Cost, 12c. This operation looks good, does nothing, and increases the size of your bill by a nice amount. Often the factory-rebuilt carburetor is a best buy for the well-used car, as factory rebuilding not only replaces the worn parts but tests the completed assembly for efficiency. But you must be as careful in selecting a rebuilt carburetor as you are in your choice of a mechanic. Gypo parts are used in many of the so-called rebuilt carbs. Keep in mind that if a carburetor is fairly new (less than 10,000 miles) and is not leaking at the seams like an old boat, there is probably little reason to overhaul it, except to increase tune-up charges.

Some Overlooked Items

Not often done by careless tune-up mechanics are the vital services needed by the aircleaner, automatic choke, and manifold heat valve. The air cleaner should be cleaned. When plugged with dirt, it cuts down the air supply and increases the amount of gasoline the engine uses. Linkage of the automatic choke should operate freely; this is easily checked by observing the choke action while your friend starts the car. After warming up the engine, the idle jets are adjusted to the smoothest running possible, the idling speed is set according to the manufacturer's specifications, and the idling jets touched up.

You now have a general idea of what should be done in an average tune-up, but a little more advice is in order: It is to your advantage to stick around and watch the job being done. The claim that a hidden part needed replacement can't be contested unless you saw it removed. Even an amateur can usually comprehend what is wrong with a faulty part, provided it is shown to him. It doesn't take a genius to recognize a crack, severe wear, signs of burning, or defects. If it did, there wouldn't be any qualified mechanics. So, watch the work being done, make sure that you're not charged for parts that aren't installed, and hope for the best. If you haven't the time to watch, you can hope you've found an honest man. —W. C.

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Custom made of top quality, 3-ply fabrics. Zippered down the center so you may drive with half the cockpit covered. Simple to install, really good looking, and will pay for itself many times in protecting the interior of your car. Comes complete with all fittings.

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2011	M G.—TD,	all models.....Tan	31.95
2012	M.G.—TD,	all models.....Black	31.95
2013	M.G —TD,	all models.....White	34.95
2021	M.G.—TF,	TF 1500.....Tan	31.95
2022	M.G.—TF,	TF 1500.....Black	31.95
2023	M.G.—TF,	TF 1500.....White	34.95
2031	Austin-Healey	100.....Tan	39.95
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2043	Jaguar XK120	to 1950.....White	44.95

PART NO.			LIST PRICE
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2062	M.G.—Series	MGA.....Black—3 ply canvas	31.95
2063	M.G.—Series	MGA.....White—3 ply canvas	34.95
2062-P	M.G.—Series	MGA.....Black—Plastic	19.95
2067-P	M.G.—Series	MGA.....Gray—Plastic	19.95
2071	Ford Thunderbird	1955.....Tan	39.95
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2073	Ford Thunderbird	1955.....White	44.95
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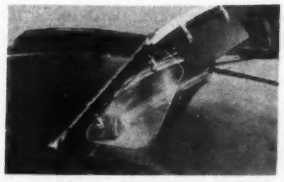
NOTE: "Most M.G.—TC, TD and TF models have been fitted previously with Tonneau Covers. When ordering replacement Tonneau Covers for these cars we recommend specifying "**No Snaps.**" Tonneau Covers will then be furnished without the snap fasteners in the front flaps. This allows the customer to fit the Tonneau Cover to the existing studs, regardless of the previous make of Tonneau Cover, placing the front snap fasteners in the Tonneau Cover at the time of installation. A small punch can be furnished to the installing dealer for approximately $2.00. Just specify "N/S"—NO SNAPS—after the part number.

Prices Include Federal Tax



WIND WINGS & SUN VISORS

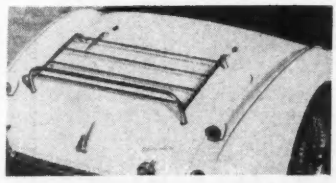
These are sturdy. Fittings are of solid brass-machined. Thick plastic wings will not interfere with side curtains or top and may be attached without drilling holes.

PART NO.		LIST PRICE
5003	Austin-Healey "100"	$19.95
5005	Jaguar XK120, 140	19.95
5001	M.G., Models TD, TF, TF-1500	16.95
5002	M.G., New Model "MGA"	16.95
5006	Nash Metropolitan	19.95
5004	Triumph TR2, TR3	16.95
5007	Thunderbird 1955	24.95
5008	Mercedes-Benz 190-SL	19.95

SUN VISORS

These are made of polarized plastic. The fittings are of machined solid brass; triple chrome plated. Attachment is simple. No holes to drill.

PART NO.		LIST PRICE
5102	Thunderbird. Pair	$17.95
5100	M.G., Models TC, TD, TF. Ea.	6.95
5103	For new Model "MGA." Each	6.95
5104	For Triumph TR2, TR3. Each	6.95



GRILLE GUARD FOR "MGA"

Curved solid steel bar is machined flat to fit spring steel support brackets. The support brackets are made of one piece construction, picking up the bolt that connects the overrider, and going back to an existing bolt in the frame. The entire assemble is connected with hardened steel bolts. The unit is simple to install—no holes to drill. Comes with complete instructions.

P-5499 Grill Guard, Triple Chrome Plated. **$29.95**

LUGGAGE RACKS These racks are tubular steel, triple chrome plated, ensuring a durable finish in any weather. Fittings are cleverly designed, making installation very simple.

PART NO.		LIST PRICE
5301	M.G. Model TD	$39.95
5302	M.G. Models TF, TF-1500	39.95
5303	New Model "MGA"	39.95
5305	Austin-Healey "100"	39.95
5306	Jaguar XK-120, 140	39.95
5307	Thunderbird	39.95

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Key & Chain.....$1.50
Keys & chains are 18 karat gold plated with lustrous baked enamel for all cars listed in the above copy.

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Name_____

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City_____ Zone____ State_____

RENAULT DAUPHINE

continued from page 29

properly lined glove compartments, and a soft rubber strip at the panel's lower edge provide for your comfort, while lights, horns (there are 2, in the French fashion), electric wipers, and all-night parking lights are controlled by various switches. The starter (with automatic choke) is operated by a key that also locks the steering.

Underneath you'll find the trunk lid release (it's at the front, of course) and a defroster switch. At the left is the hard-to-work radiator warm-up blind, mounted on the wheel well. Heat, when wanted, comes thru little plastic doors, one for the driver and one for his passenger, and thru another centered at the base of the rear seat; production cars will also have a blower.

Aside from interior room, one of the greatest advantages the car has over the VW or the 4-CV is a capacious trunk. Its lid is hinged at the front for greater safety if you happen to leave it unlatched, and only the battery shares it with your luggage. The headlights, being in the lid, light the trunk at night. The spare tire has been banished to a horizontal position at the front of the car.

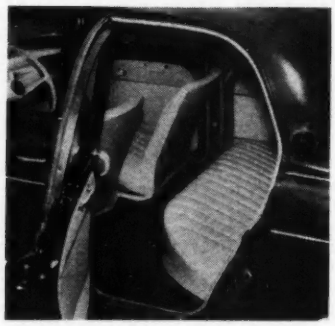
Many a Volkswagen has been sold when a stranger got behind the wheel; the same is bound to happen with this car. Steering is precise, fast (despite 4½ turns lock to lock) and absurdly easy. Second and 3rd speeds are well synchronized. There's only a 3-speed gearbox, and so small an engine could use an additional speed. We will say for this box that the 3 ratios appear to be right on the button.

In all acceleration tests as well as top speed, the new car left the Volkswagen as well as the 4-CV behind. The car's nimble handling is a big factor in its ability to keep up with large-car traffic. Most astonishing figure of all was our average gas mileage: over 39 mpg despite rough treatment; including fast highway driving and, in town, traffic lights galore.

The rear engine compartment is a joy to behold. Small headers and a chromed rocker cover are bonuses. Owners are advised to climb out whenever an attendant unfamiliar with the car opens the rear "hood": Three similar fillers can confuse him despite the red cap on the gasoline filler.

The Dauphine is a ball to drive, but is it a practical buy? We would certainly give prospective buyers the go-ahead here. If there was ever a car that will pay for itself, this is it. Maintenance expenses should be lower than on any car we know of, and this includes even such matters as washable plastic seats and door liners, and wear and tear on the driver. Perhaps the only point that concerns us is the rear suspension: a vertical coil on each side contains a tubular shock, but no trailing arms or other stiffeners locate the half-shafts; only a sort of key where the axle enters the differential case prevents fore-and-aft motion. Having once had some trouble with a 4-CV that split its case at this very point, we would add Traction-Masters. —P.M.

John Green of Renault of France lent us the Dauphine.



PERFORMANCE

ACCELERATION
From Standing Start
0-30 mph 7.1 0-45 mph 15.0
0-60 mph 31.6
Quarter-mile 22.6 and 57 mph
Passing Speeds
30-50 mph 12.3 40-60 mph 19.6

FUEL CONSUMPTION
Used Mobilgas Regular
Stop-and-Go Driving
39.1 mpg city and highway average

TOP SPEED
71 mph

SPEEDOMETER ERROR
Read 34 at true 30, 51 at true 45, 66 at true 60, and 77 at top speed

SPECIFICATIONS

ENGINE: Ohv 4. Bore 2.28 in. Stroke 3.15 in. Stroke/bore ratio 1.379:1. Compression ratio 7.25:1. Displacement 51.5 cu. in. Advertised bhp 30 @ 4250 rpm. Bhp per cu. in. 0.583. Piston speed @ max. bhp 2585 ft. per min. Max. bmep 141.9 psi. Max. torque 48 lbs.-ft. @ 2000 rpm.

TRANSMISSION: Standard transmission is 3-speed synchromesh. Ferlec automatic clutch optional.

RATIOS: 1st 3.7, 2nd 1.81, 3rd 1.07, reverse 3.7.

REAR AXLE RATIO: 4.37.

STEERING: Turning diameter 27½ ft. Number of turns lock to lock 4½. Type: rack and pinion, with return spring.

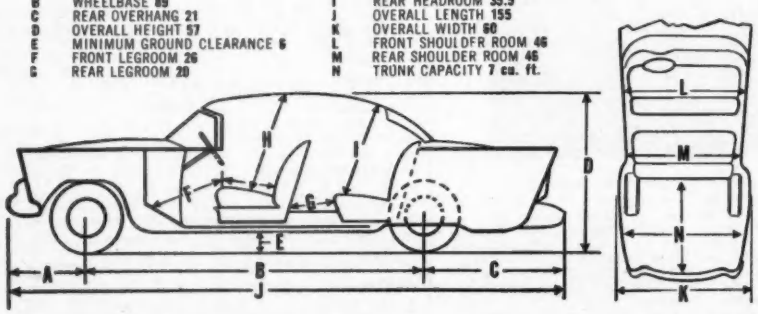
WEIGHT: Test car weight (with gas, oil, and water: 1360 lbs. (39% front, 61% rear). Test car weight/bhp ratio 45.3:1.

TIRES: 5.00 x 15.

PRICES: 4-door sedan $1645.

DIMENSIONS

A	FRONT OVERHANG 17	H	FRONT HEADROOM 37.5
B	WHEELBASE 89	I	REAR HEADROOM 35.5
C	REAR OVERHANG 21	J	OVERALL LENGTH 155
D	OVERALL HEIGHT 57	K	OVERALL WIDTH 60
E	MINIMUM GROUND CLEARANCE 6	L	FRONT SHOULDER ROOM 46
F	FRONT LEGROOM 26	M	REAR SHOULDER ROOM 46
G	REAR LEGROOM 28	N	TRUNK CAPACITY 7 cu. ft.



DELLOW

continued from page 31

ratio head and the help of 2 S.U. carburetors. The stock Anglia engine is rated at 36 bhp at 4500 rpm, while Dellow sees fit to leave the output rating the same but specifies the peak to be 4400 rpm. Transmission and rear end are also stock Anglia components. Four-wheel *mechanical* brakes are fitted, Girlings with 85 square inches of total lining area which, considering the light weight of about 1300 pounds, proved extremely efficient.

The body is a hand-built affair evidencing a considerable amount of good taste and streamlining. Of light aluminum alloy, this body sits on a particularly strong tubular frame. According to Dellow's brochure almost any color is available, but we understand that unless one is insistently specific when ordering, almost any color is what he is liable to get. But inside there are 2 very low and comfortable, fully-leather-upholstered, semi-bucket seats (the back is solid) which, while they are not adjustable, do allow considerable legroom

if you're not over about 6 feet tall. The 3-speed shift operates by remote linkage from a stubby stick in the floor. Pile carpeting of good quality is used, and indeed all the coachwork and assembly is of a high order, nearly as good as on many cars costing much more. Turn signal lights are standard.

The bonnet is hinged at the back near the cowl, and from what we saw in the way of the latches, we would snitch Grandpaw's suspenders and tie down the hood to make sure that forward visibility was as good at 80 as at 10. The gearbox has synchromesh on 2nd and 3rd (top) and can be shoved around quite handily, allowing downshifting from top to 2nd at an indicated 50 and into low cog at about 23 mph. The speedometer is set into a rather neat instrument panel and has a companion tachometer. According to the book, it interprets 1000 rpm in top gear as being the equivalent of an honest 16.5 mph. We found that the engine over-revs very easily and managed to make a timed quarter-mile, flying, at a speed of 89 mph in an older model than this one. The new Mark V-B was barely out from under its coat of ocean-going grease and the new owner was standing around nervously watching us as we felt out his pride and joy.

Driving a Dellow is more like wearing a car than sitting inside one. Without doubt there are few cars that are more fun to drive, and even if it isn't good for much more than 90 mph, it corners like it was on rails and can be placed with extreme accuracy due to a good balance, low overall height, and fast 2½ turns from lock to lock. Alex Tarpinian, the concessionaire, says that there is little to go wrong with the car. All parts, excepting the body panels, are stock items and should not be difficult to replace. One is reminded, due to the Anglia heritage, that wrecking yards in large cities might possibly supply a fair bin of spares.

The ignition is 12 volt and uses Lucas components. Many of the suspension parts, including the front and rear axles, are also stock Ford Anglia and the shock absorbers are Girlings. Coil springs are used all around and radius arms in the rear.

A snug-fitting canvas top is standard equipment and this has a nice wrap-around rear window of plexiglas. The top stows behind the seatback, which hinges forward. With the top up there's room in its compartment for some minimum luggage; the tonneau has additional space that is shared by the spare wheel, which lies flat, and by the fuel tank. Gasoline mileage is terrific and owners report up to as much as 38 mpg at cruising speeds of around 60 mph.

The entire car has a rugged appearance, a resonant exhaust note, the feel of a thorobred, requires a month or so wait for delivery, and costs approximately $2050. This seems to us to be worthy of consideration, there being few genuine sportsters available so low. —J.H.W.

London Motors, 38-01 Beach Channel Dr., Edgemere, Long Island, N.Y., lent us the Dellow.

PERFORMANCE

ACCELERATION
From Standing Start
0-30 mph 4.6 0-40 mph 8.4
0-50 mph 13.3
Passing Speeds
30-50 mph (using 2nd & 3rd gears) 5.6

FUEL CONSUMPTION
Up to 38 mpg under average conditions. An older model mechanically identical gave 31 mpg including acceleration runs

TOP SPEED
89 mph

SPECIFICATIONS

ENGINE: L-head 4. Bore 2.5 in. Stroke 3.64 in. Stroke/bore ratio 1.456:1. Compression ratio 7.6:1. Displacement 71.55 cu. in. Advertised bhp 36 @ 4400 rpm. Piston speed @ max. rpm 2669 ft. per min. Max. torque 54 lbs.-ft. @ 2150 rpm.
TRANSMISSION: 3-speed synchromesh.
REAR-AXLE RATIO: 4.72:1.
STEERING: Turning diameter 29 ft. Number of turns lock to lock 2½.
WEIGHT: Test car weight (with gas, oil and water) approximately 1300 lbs.
TIRES: Front 4.75 x 16, rear 5.50 x 16.
PRICES: Approximately $2050 (East Coast) with dual S.U. carburetors, roadster top, turn signals and tachometer.

DIMENSIONS
WHEELBASE 84
OVERALL HEIGHT 54 with top up (36 with top and windshield down)
MINIMUM GROUND CLEARANCE 7.0
OVERALL LENGTH 140
OVERALL WIDTH 54

FREE
AUTO PARTS & ACCESSORIES
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FOUR BARRELS OF TROUBLE?

by John Booth, Engineering Editor

Q. *I HAVE a '56 model car equipped with a 4-barrel carburetor. Frequently, when making a hard or long, sweeping left turn, the engine seems to cut out like it was being starved for fuel. I am told this is a characteristic of 4-barrel carbs. Is this correct? If so, what is the cause and what is the remedy?*

A. This is a tough one to answer. Your engine could be, as you say, starving out, or it could be flooding, or doing both at the same time!

While this may sound confusing, the reasons are even more so. The modern 4-barrel carburetor contains more parts than many entire automobile engines of just a few years ago, carburetor and all! It is a complicated precision instrument and endowed with the usual problems that accompany complication.

Probably the most annoying of these is the tendency to cause erratic operation of an engine in a hard left turn or, in some cases, a right turn, or both. In each case, no one thing is necessarily responsible, but rather, it is usually a combination of several things, all triggered by a common phenomenon—centrifugal force.

Current 4-barrel carburetors have 2-float chambers or fuel reservoirs known as the primary (front) and secondary (rear). Gasoline is forced into these chambers by the fuel pump and floats, which are located inside these bowls. The incoming fuel is cut off by the closing of the respective needle valves when a predetermined fuel level has been reached. As this fuel is consumed, the floats drop, which lets in more gasoline and thereby maintains a proper fuel level inside the chambers by a series of "open and closed" needle valve movements. As long as the car travels in a relatively straight line and on reasonably smooth roads, this system works fine because the buoyancy of the floats and the force of gravity remain constant. This keeps the fuel level at its proper height and evenly distributed thruout the chamber.

In a hard or long, sweeping turn, however, centrifugal force introduces a factor that is foreign to the set of constants designed into the carburetor, resulting in an unstable fuel supply. This instability can produce any number of operating changes in the engine, depending upon the condition of the carburetor as a whole.

As centrifugal force is built up in a left turn, for example, it banks the gasoline up against the float, holding the needle valve closed, and cutting off the fuel supply. In addition, this same force is trying to throw fuel away from the jet. As the remaining fuel in the chamber is used, the jets are starved, resulting in the condition known as "lean out."

While this lean out will usually affect only the cylinder bank fed by the starved jet, another situation is in the making. With the fuel banked over to the right side in a left turn, it can build up to the extent that it overflows thru the vent tube into the intake manifold. It has been known to flood one cylinder bank, while the other bank is starved or leaned out.

Conversely, a right turn can produce the opposite condition by banking the fuel away from the float, which allows excessive gasoline to enter the chamber. This excess then overflows into the intake manifold, also producing a flooding-out condition similar to that in a left turn, but more pronounced.

Mechanical condition of the carburetor also affects the results of centrifugal force. As gasoline is thrown above its normal operating level in a turn, certain passages are exposed to gasoline. This will also allow a flooding condition unless the various gaskets produce a tight seal. Constant expansion and contraction of the carburetor, due to variable engine heat, will frequently distort the gasket that normally seals against a bend or bridge cast into the face of these passages. This imperfect seal will allow unwanted gasoline to flow into these passages, resulting in an excessively rich mixture in the intake manifold.

While these faults are producing their effect, other malfunctions can contribute to the overall erratic action during a prolonged turn. Breather tubes, when cut off by raw gasoline, will allow a vacuum buildup within both float chambers. This causes fuel surge, creating the effect of alternate rich and lean mixtures. Speed can also effect abnormal functioning of the carburetor, even if the turn is so wide that centrifugal force isn't too severe. The reason for this is that, contrary to popular opinion, a 4-barrel carburetor functions as a 2-barrel unit about 70 per cent of the time, and is fed by the front or primary chamber. The other 2 barrels come into use only at higher speeds, usually above 40 mph, and are fed by the secondary chamber. With only one chamber in operation, a momentary lack of fuel will be immediately apparent. When both chambers are feeding the cylinders, a certain "overlap" of starvation or flooding has a tendency to cancel out the effect.

It is an established fact that any one or all of these abnormalities can exist at one time, but the general condition of the carburetor will have a tremendous effect on the severity of the malfunction. Driving technique is also another factor. The driver who lead foots it around corners will be aware of the problem far more often than a conservative driver, because the carburetor problems are in direct proportion to the centrifugal force build-up.

Actually, this condition has existed to some extent even before the 4-barrel design. A 2-barrel is affected by centrifugal force also, but to a lesser degree. This is because the jets are not so far apart, and the fuel chamber isn't so large, hence, there is less banking of gasoline, with less tendency to uncover a jet.

Any carburetor that shows an abnormal tendency toward erratic action in a turn should be thoroly checked for mechanical defects. All gaskets should be replaced, with particular attention being given to the gasket seals for nicks, pinholes, or other defects. A 4-barrel carb in good condition will usually overcome these inherent faults in all but exceptionally severe and prolonged turns.

New designs will appear in '57 which will overcome, to a large extent, most of these faults. The jets will be repositioned, as will the breather tube. One design will probably incorporate a honeycomb or waffle baffle arrangement to help offset fuel banking. In the meantime, check your carburetor's condition and accept centrifugal force as the final master in any turn under any condition.

Q. *CONTINENTAL HUBCAPS. I want Continental hubcaps on my new Lincoln. Can these be bought from the factory? Will they fit? Jerry Ishman, Cleveland, Ohio.*

A. They can be purchased thru your Lincoln dealer and will fit the wheels on your present car. When you find out how much these Continental hubcaps cost, however, we venture the thought that the standard hubcaps will suddenly look plenty good!

Q. *SAGGING COILS. My '49 Pontiac needs front coil spring boosters. Is there some kind of kit that will lift the front of the car up to its former level? Paul Getz, Annapolis, Md.*

A. There are several types available thru auto supply houses. One type in particular consists of aluminum wedges that can be knocked into place between the last 2 coils when the front end is jacked up enough to allow full wheel drop.

Q. *OIL LEAK AT REAR WHEEL BRAKE. The right rear wheel brake on my '55 Chevy is covered with oil. I suspect a leaking oil seal but the differential oil level is still full. Can the cause be checked without pulling the wheel off? James Mitchell, Austin, Tex.*

A. You don't say what type of oil is in evidence. If it is thick and black, the trouble most definitely is a leaking seal, but if it is light in color and has a chemical odor, it is a leaking brake cylinder. In either case, you will have to pull the wheel to correct the trouble. Do this right away. Either cause will ruin the brake lining and produce dangerously erratic braking action.

Q. *BRAKE CLICK. My '50 Ford has a definite click every time I apply the brakes in reverse. What causes this? Also they won't stop the car as easily as when moving forward. Jan Kessell, Brian, Tex.*

A. The click is due to the brake shoes moving backward as the brakes are applied. Your car is equipped with self-energizing brakes which have a floating movement that produces a "wrap up" or energizing action. In reverse they unwrap until they hit the anchor pin stops, which causes the click. Since they unwrap, they have no self-energizing effect in reverse. Hence, more pedal pressure is required to stop.

Q. *LOWERING A '56 CHEVY TOP. I want to lower the top on my '56 Chevy and would like to know how to cut down the curved windshield to fit the new opening. Thomas K. Minnion, Boston.*

A. George Barris, one of the best-known men in the customizing field, tells us that any 1st-rate glass cutter will do the job but won't guarantee against breakage. It's quite a ticklish proposition—the glass is cut in ½- to 1-inch strips at a time. Then the frame must be aligned to the glass.

Q. *BUYING A CHRYSLER RECORD PLAYER. I would like to install a Chrysler record player in my '56 Cadillac. My dealer tells me they can only be purchased as factory equipment on a Chrysler product. Is there any way to get one? John Balinsky, Jones Point, Conn.*

A. Yes—the dealer is wrong. This unit can be purchased thru any Chrysler product dealer. The part number is 1704400. You will also need a signal-seeking radio which acts as the audio system. A satisfactory Chrysler radio that can be purchased is No. 1648591—Model 912.

Q. *POWER BOOST FOR T-BIRD. I am buying a Ford Thunderbird. Which would be better—a Cadillac engine or a McCulloch supercharger? S. C. Edwards, Pittsburgh, Pa.*

A. A supercharger by all means. McCulloch makes an installation hit for the Bird.

Q. *NEW ENGINE FOR '37 CORD. Is there any manufactured kit for installing a Chevy engine in this car? William J. Reid, Jr., Abbeville, S.C.*

A. Sorry, no kit is available. We suggest you advertise for a replacement engine. It would be a shame to chop up one of the real classic cars.

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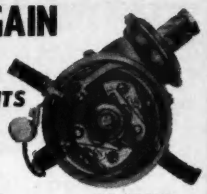

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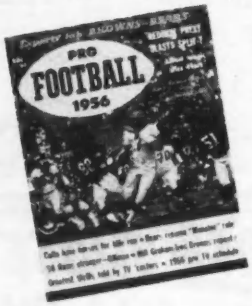

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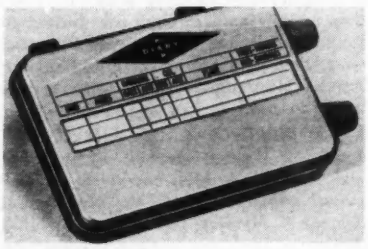
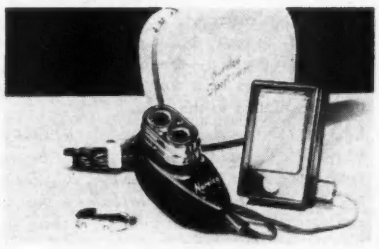
BATTERY SENTINEL safeguards against battery discharge and failures by giving you a buzzer signal if the car lights or other accessories are left on with the engine turned off. The signal operates when you open the door to leave your car. Mounts under the dashboard. Two models available at $4.95 and $5.95 ppd., including necessary materials and instructions for installation. Industrial Computer Corp., Dept. MT-9, 274 Lembeck Ave., Jersey City 5, N.J.

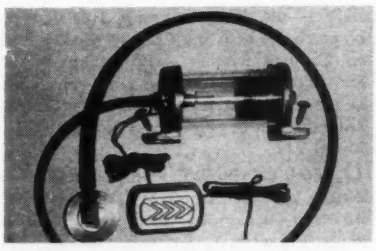
KAR DIARY fastens to your car's sun visor and is about the easiest way to keep a record of mileage, gas and oil consumption, and the cost of lubricants, repairs, etc. Particularly useful in keeping records for tax purposes. The roll tape lasts about a year, and a refill is included. $1.95 ppd. The Idea Treasury, Dept. MT-9, 709 Webster, New Rochelle, N.Y.



NORELCO SPORTSMAN electric shaver operates from 3 regular flashlight batteries or from the lighter socket in your car. Complete with pigskin carrying case, battery case with mirror, lighter plug adapter, and a 1-year warranty. Priced about $29.95, it's one of the best portable shavers made, and one of the most convenient for the traveler



BRAKE SENTINEL reservoir replaces hydraulic fluid lost thru evaporation or seepage, is conveniently refilled, and provides a double warning when the fluid is low. Level can be checked thru the pyrex glass walls, and an audible warning is given by a buzzer that mounts under the dash. More details from the Arrow Safety Device Co., Dept. MTM, Mt. Holly, N.J.



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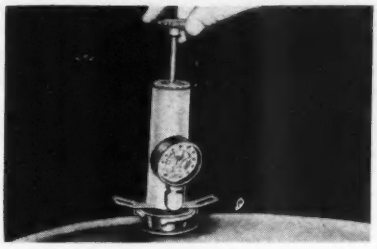

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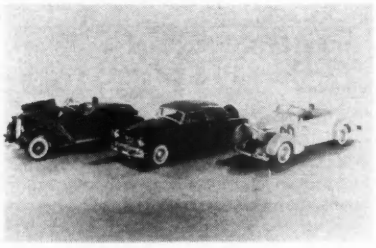

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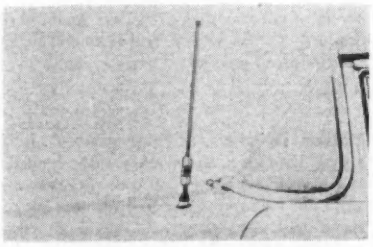

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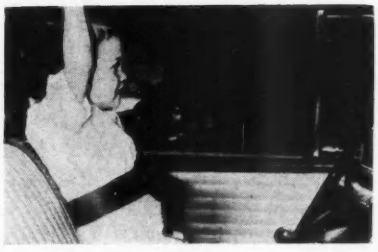

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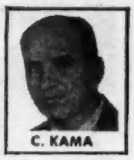
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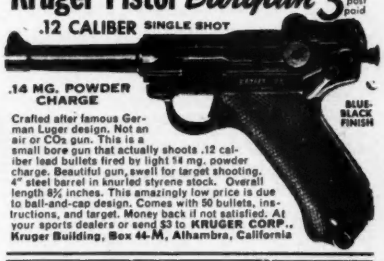

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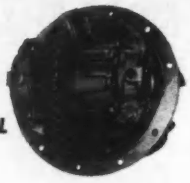

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by Rodger Darling

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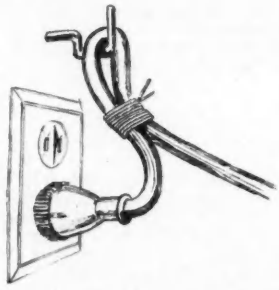
Worried about transporting that radio, phonograph, records, sensitive photo equipment, or any other fragile items in your crowded car? Just fasten a lightly inflated inner tube to the floor of the trunk compartment, mount a sheet of plywood or similar substance on top of it, and you have a platform to provide a gentle air-cushioned ride for your valuables.

IN THE DARK?

You crawl 'way under your car . . . wriggle laboriously into the necessary awkward position . . . get your tools all set for a tricky repair job . . . then, moving the extension cord for a little better light, you pull the blankety-blank thing out of its socket! No



accidental pull can make you grope around a darkened garage if you insert a sturdy hook or slanted nail in the wall above the outlet, tie a loop in the cord near the plug, and hang the loop over the hook as shown. This hook also serves as a handy hanger on which to leave the coiled-up extension light when not in use.

AN OIL CAN WILL FIT

Hard to find a convenient catch pan to slide under the crankcase when changing the engine oil? Use an old 2-gallon oil can, its wide side cut away with a can opener. Remember—removing old oil *only when the engine is hot* is as effective as a crankcase flush, while draining a *cold* engine leaves much sludge and sediment behind.

WRAP IT UP!

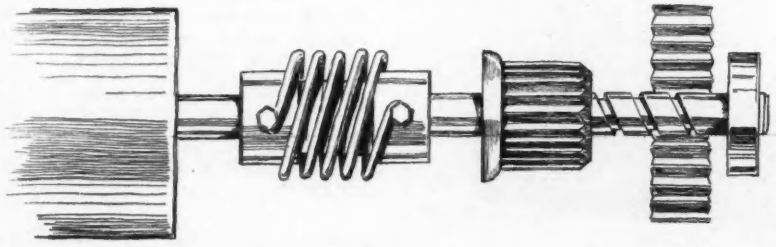
Heavy wrapping paper takes little room in your car but has lots of uses. Spread over windshield and rear window of your parked car it will keep snow and rain from freezing onto glass. Tucked between grill and radiator it makes your heater hotter and, should temperature tumble below anti-freeze level, helps keep water from freezing. Fold it into a kneeling pad for tire-changing in snow or mud. Keep grease and battery acid off your clothes when checking the engine by draping a piece over the fender.

AVOID A BURN

When tinkering around with your car engine, remove your wrist watch. Its metal strap coming in contact with a "hot" wire can cause a lively short that might give you a bad burn or do weird things to your watch.

STARTER TROUBLES

If your Bendix-type starter whirrs without turning the engine the fault is probably yours. This little-understood unit (which the starter motor whirls into the flywheel to crank the engine) should never be oiled. This gums the shaft, keeping gear from sliding into place (flush off with kerosene). Likewise, a weak battery may not have enough pep to kick this gear into the flywheel. In an emergency you may be able to mesh it by hand, then press the starter. Worse, a weak battery may nudge the starter gear only enough to jam in the flywheel. This can usually be cured by gearing the car in high—ignition off—and rocking it manually.



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SELL

'37 WILLYS 4-dr. sed. One owner, everything orig. Garaged since new, exc. cond. $300 or best offer. Pix on request. William H. Hartung, 515 E. 144 St., Bronx 55, N. Y.

'39 BUGATTI 57 4-place conv. by Gangloff. Engine show finished, o'hauled recently in Paris. New paint, top, carpets & tires; in concours cond. $2650. V. A. Corradini, 1231 Oaklawn Rd., Arcadia, Calif. Phone ELgin 5-6320.

'55 FERRARI, latest type 3-liter Spyder Monza. Body by Scaglietti. Never raced; thoroly checked at Modena. $6500. V. A. Corradini, 1231 Oaklawn Rd., Arcadia, Calif. Phone ELgin 5-6320.

ROLLS-ROYCE P-II sedanca de ville All orig.; engine, body, paint like new, 22,000 orig. mi. $2450. V. A. Corradini, 1231 Oaklawn Rd., Arcadia, Calif. Phone ELgin 5-6320.

CLASSIC CAR Sales Catalogs: Packard, Chrysler, Lincoln, Cadillac, Pierce-Arrow, orphan & foreign cars; minimum $5 each. Also MoToR (N.Y.) Annual numbers; details for large, stamped addressed envelope. A. E. Twohy, 400 N. Kenmore, Los Angeles.

ORIGINAL MAGAZINE ADS of all the great classics. New listing 25¢. Wanted: MOTOR ANNUALS, years 1924 thru 1938. Will pay top prices for mint copies. Sheldon J. Lewis, 1373 E. 12th St., Brooklyn 30, N.Y.

'39 MERCURY 5-pass. conv. Orig. cond. thruout, incl. tan finish, brown leather interior & factory

radio. Perfect mechanically. Best offer. Robert D. Spencer, Lake Antoine, Iron Mountain, Mich.

'47 LINCOLN CONTINENTAL V-12 conv. Completely orig., r & h, o.d., ww's, maroon finish. Near-perfect cond.; 31,000 mi. Reasonable offers answered. Robert C. Messer, Rt. 3, Amsterdam, N.Y.

'24 FORD touring. Exc. orig. cond., incl. top & uph. Completely roadworthy. $295. Pix 10c. Delivery as far as 400 mi. Norman Roy Miller, 1422 N. Lincoln Ave., Davenport, Iowa.

'34 PLYMOUTH Special 4-dr. sed. Collector's item; amazingly preserved showroom cond. 82 hp, hydraulic brakes, free wheeling, generous nickel plating, beautiful tire case at rear. $600. Erwin Ruth, 1921 37th St., N.W., Washington 7, D.C.

MC CULLOCH SUPERCHARGER, complete kit for '55 Chevrolet with Powerpack. Used less than 100 mi. Cost $300; sell for $150 f.o.b. Winnfield, La. James H. Emerson, P. O. Box 870, Winnfield, La.

'32 GRAHAM Blue Streak 4-dr. sed. Body, chrome, uph. in good cond. Mechanically good thruout; in daily use. Needs paint & brake relining. $175. A. G. Tasca, 7000 Garden Grove Ave., Reseda, Calif. Phone DIckens 4-8479.

'23 STERLING-KNIGHT touring. Rare, may be only one left. Superb cond.; orig. except new top & tires. Mileage under 9500. Pix available. R. S. Clements, 625 Montgomery Ave., Bryn Mawr, Pa.

'32 PACKARD 8 Model 904 7-pass. sed. Good paint, uph., tires, engine & running gear. Sidemounts. $295. Also need an up-draft carburetor for same model. Jimmy Louden, 105 S. Main, Sylacauga, Ala.

'41 CADILLAC 62 sed. Perfectly orig.; like-new cond. Low mileage, orig. tires. Best offer. Donald L. Horner, Rt. 5, Xenia, Ohio.

'32 AUBURN 8 classic speedster. Fishtail model, orig. owned by Cary Grant. Running cond., never in accident. Orig. body restorable. $1000 or best offer. Dorothy Palmer, 1126½ N. Beachwood Dr., Hollywood 38, Calif.

'32 PACKARD 8 Model 901 4-dr. touring car. Orig. mileage 47,000; 8 new tires. Cost $3200 new; orig. owner. Nick Caldarelli, 310 E. 14th St., Elmira Heights, N.Y.

'39 PACKARD 12 conv. victoria. In running cond.; needs top & body work. Good opportunity to buy a real classic at a reasonable price. $200. P. J. Hasslacher, 49 Plain Dr., East Hartford, Conn.

FORD T PARTS—largest stocks, lower prices. Send for free listing. Also, Model A mechanical parts listing free. Some mechanical parts older models. Advise needs. E. Hemmings, 1036 Hampshire, Quincy, Ill.

'36 MERCEDES 230 classic conv. Good cond., everything orig. Green leather. Converts to double bed, central lube system, engine recently o'hauled. Consider offers over $900. Fred Artus, 133-47 114th Pl., South Ozone Park, N.Y.

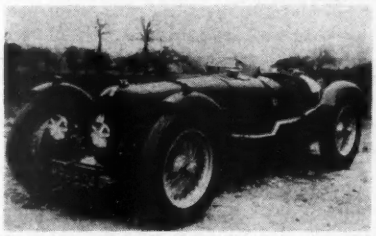
'54 STUDEBAKER V8 hdtp. Beautiful "classic" design. Exc. cond. thruout; exceptionally clean, solid; o.d. Incl. extra set new seats, side panels. Best offer over $1675. T. Torrance, 3114 S. Michigan, South Bend, Ind.

'35 CADILLAC V8 conv. Orig. paint, good running cond., exc. top, wire wheels, continental rear. Easily restored: a real buy. Best offer. Mrs. F. Perilstein, 170 Gramercy Rd., Bala-Cynwyd, Philadelphia, Pa.

'36 MERCEDES-BENZ 2-pass. conv. rdstr, 2.9-liter engine, 4-speed trans. (not a fast car). Rumbleseat well. If interested, write G. Peary, 1021 S. Quebec St., Arlington, Va.

'22 COURIER 4-pass. sport touring. Rare model, completely restored. $1200. Photo & details available. F. W. Frew, Box 188, Decatur, Ga.

'32 MASERATI 2.9-liter blown 2-seater Grand Prix. Red, magnificent & potent; fully road equipped.



Formerly owned by Sir Henry Birkin; just imported from England. Spares. $3500. H. W. Uhle, 65 E. 92nd St., New York 28.

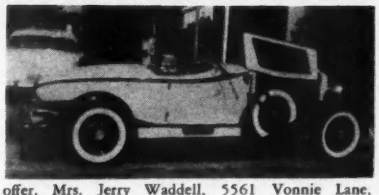
'34 FRANKLIN Model 19-A 4-dr. sed. 6 wire wheels, good tires, brakes & engine. Reupholstered, painted. Manual. $250 or best offer. Ralph Borsella, 312 Swinton Ave., Box 65, New York City.

'36 FORD phaeton. Partially restored, incl. factory-rebuilt engine, new top, uph., paint, battery & generator. All rewired. $600. Charles N. Berry, Jr., 2511 Liberty Bank Bldg., Oklahoma City, Okla.

'36-'48 LINCOLN parts, heads, distributor housings, 1 camshaft, '36-'41 crankshaft, '41 grille, '42 pistons, front fenders, door & trunk handles. Let me know your needs. Rollo Alderfer, c/o Maples Trailer Park, Rt. 1, Lafayette, Ind.

'37 HUPMOBILE sed. Heater, o.d., good rubber. Solid body; mechanically o.k. $165. J. W. Weinkauf, 1554 E. 2nd St., Duarte, Calif.

'32 AUBURN V-12 speedster. Orig. leather seats & chrome. Exc. cond. thruout; driven 38,600 mi. Best



offer. Mrs. Jerry Waddell, 5561 Vonnie Lane, Cypress, Calif.

CORD 810 rdstr. Rare model; completely orig. Good all-around cond. Pix on request. $1500. Harry H. Gesner, 4770 Topeka Dr., Tarzana, Calif.

'51 LINCOLN Cosmopolitan conv. with Hydra-Matic. New premium ww's, brakes, battery, front-end bushings, etc. Needs top, trans. seals. $800. Also butane conversion kit, $125. T. W. Feistel, 8618 La Tuna Canyon Rd., Sun Valley, Calif. Phone FLorida 3-9269.

'36 CORD 810 sed. Completely restored to show cond.; over $2000 invested. Driven 1000 mi. since restoration. Sacrifice for $1200. Paul Esaian, 23 Saddle Rock Rd., Valley Stream, N. Y.

'48 TRIUMPH 1800 4-pass. rdstr. Roll-up windows, rumbleseat windshield, new black finish, tube frame, alum. body. '53 Ford engine & trans. $1500. Jim Harrigan, 4340 Douglas, Des Moines, Iowa.

'28 CHEVROLET 2-dr. sed. One of the finest you will find; formerly owned by Chevrolet agency for parade car. Orig. rear rug & tools. $500. Dr. J. Allen Biggs, 869 Edgehill Rd., Jacksonville, Ill.

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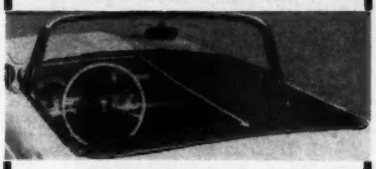

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E.M.F. FLANDERS Model 20 touring. All parts complete; needs restoring. $600. Art's Auto Service, Schofield, Wis.

SOUVENIR PROGRAMS '56 Iowa Motor Sports Show. 24-page illustrated guide to 150-car, 16-class show. Hot rods, customs, antiques, classics, sports cars. $1 ppd. Jim Harrigan, 4340 Douglas, Des Moines 10, Iowa.

'48 LINCOLN CONTINENTAL conv. Exceptionally fine cond.; rebuilt Merc engine. New black paint, white top, ww's. Best offer over $1750. J. W. Kemper, 1354 McCutcheon Rd., Richmond Heights, Mo. Phone WO 1-2703.

'48 LINCOLN CONTINENTAL conv. One of last 12 manufactured. Good body, new nylon top, new uph., duals, ww's. Driven daily. $1500. Mary Adeline Johnston, "Gaywood," Centerville, Ind.

SELL OR SWAP

'37 CORD supercharged cabriolet featured this issue. Everything that wiggles replaced or rebuilt. Will take $3000 in cash; Healey, Porsche, Hollywood or ocean-front lot in trade. Henry Portz, 12221 Acacia Ave., Garden Grove, Calif. Phone Jefferson 7-2804.

'14 DODGE touring. Engine No. Z.A.5. 17,000 mi.; exc. rare antique. Restored except for top, curtains & leather. Best offer cash, trade, or both. Prefer speedster. Gary A. Wutke, 1333 B.W. Orchard St., Milwaukee 4, Wis. Phone EV 4-3888.

'27 PIERCE-ARROW landau limousine in good running cond. About 85% restored; needs left front door lock, distributor rotor & uph. cleaning. Will sell or trade for '10-'20 Marmon sportster or handle-driven car. Best offer. Eugene E. Maaks, 4750 N. 74th St., Milwaukee, Wis.

WANTED

WIRE WHEELS, center-locking 18" DuPont or 17" Duesenberg. Have 7.00 x 19 wheels & tires for trade if desired. Bob Olsen, 3476 Principio Ave., Cincinnati 26, Ohio.

KISSEL rdstr '30 to '34 model, restored or in restorable cond. Henry S. Lowenstine, 223 S. Michigan St., South Bend, Ind.

'36-'37 CORD 810 4-dr. Westchester sed. Give full detailed description. No high prices. Edmund Serafin, 211 Grant Ave., Jersey City 5, N.J.

TIRE RIM for '28 Cadillac 4-pass. spt. cpe., size 7.00 x 20. One urgently needed to complete car, but could use 2. K. T. Hall, Colony, Va.

LEFT REAR & right front fenders for '23 Chevy Superior. Also fender aprons, windshield & rear half of rdstr. body. Robert Marchionda, 33 Hunt Ave., Hamburg, N.Y.

ROMETSCH VW

continued from page 30

fancy personal creations that topped their frames were often staggeringly heavy.

Here is a happy change. The Rometsch that we drove (1st to reach U.S. shores) was untuned after its 1st 8000 miles, and not in the best of health. But its aluminum body rolls 300 pounds off the weight of a standard VW, and with the aid of the twin carbs the little car can easily leave its stock sisters behind. We're not sure that this makes it a "Sportswagen," but it will keep up with Detroiters thru traffic if you keep your mind on it.

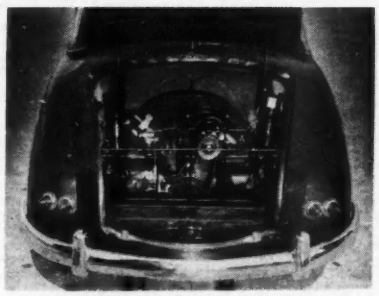
Clearly, the Rometsch is for the owner who wants a vehicle as much his own as his home, but without paying a penalty in the form of high operating or maintenance costs. He (or she) can get this package for $2995 or $3195 (for the coupe and the convertible, respectively). Extras, color inside and out, and other options are up to the prospective owner, who will have to wait a couple of months for the car to arrive from Germany.

Our Rometsch had been built to the order of a woman, and impeccably painted dark blue. Only exterior accents were the rub strip and the aluminum discs. The interior was in matching blue leather and gray bedford cord, another agreeably classic touch. The gearshift lever was awkward for us, since it was intended for the lady's smaller physical measurements. The straight-across rear seat (for children only) allows them to sit erect.

Handling is what you would expect of a VW, with this exception: the longish tail that helps give the Rometsch its excellent proportions doesn't help weight distribution, and tends to swing around faster than the stubby one of the stock VW. We broke the rear loose at 30 mph on a sharp turn, but had no problem recovering it.

With even lukewarm national acceptance of safety belts (which this car had, in matching blue leather) has come a new attitude toward the front-opening doors that have vanished from U.S. cars. No longer does leaping to safety seem to be a necessary safety feature. If you leave your Rometsch's doors unlatched, the wind will of course blow them open rather than closed. But once you've heard their detail-perfect click, you may find yourself shutting them over and over, just for fun.

Entering the car — there's a huge chromed sill to negotiate—seemed unnecessarily awkward to us, and the high hood and cowl reminded us of early Ramblers. But try it yourself, if you get a



chance, and let MOTOR TREND know whether this miniature classic revival appeals to you. —P.M.

Jack Berman of Imported Motors, 9372 Wilshire Blvd., Beverly Hills, Calif., lent us the Rometsch.

AIR CONDITIONER

continued from page 24

power" of the unit, that is, its ability to hold a coolness achieved before stopping, say at a traffic light;

3) The direction, location, and intensity of drafts of cold air, if any;

4) The noise level of the unit with little interference from engine, road, and wind sounds.

Test 1. Cooling in AUTOMATIC, fan switch in LOW, outside temp 99, inside temp 104, other conditions as above. Cooling commenced immediately, but progressed slowly. In 5 minutes, the temp was 99, a 5-degree drop. Stable temp of 97.5, with no change after switching the cooling to MANUAL. Switching to MANUAL should have no effect unless the temperature is already below the thermostat shut-off point.

Test 2. Same conditions as Test 1, except that the fan switch was in HIGH. Temp was 99 at 5-minute check, dropped to 95 and held, at the 10-minute check. Tests 1 and 2 show that pre-cooling is rather impractical, especially when compared with the figures in Tests 3 and 4. The apparent inefficiency is due to the low speed of the refrigerating pump and generator when the engine is idling. There is a lack of Freon pressure in the system, and the electrical voltage is lowered by the fan-motor load, reducing its speed also. However, the unit still operates, and should hold a nearly constant temperature for short periods. This conclusion is borne out in Test 5. As for drafts, there were several (more on this later). Lastly, there is the noise. In order to move a sufficient amount of air thru the cooling case, the fan must really *work*, and it does. The result is not exactly quiet, but is far better than sweltering in peaceful silence. In LOW, the fan noise was no more than that produced by a good household fan. In the HIGH position, however, the noise was considerable, interfering with enjoyment of the radio.

The next 2 tests give a good picture of the normal operational capacity of the Wizard, as they would of any unit. These tests are the most important of the lot, since they show what can be accomplished at average highway and town speeds. We drove these tests at both 30 and 60 mph and found no difference, tho there might be a great disparity when testing another type unit. The windows were closed, and this fact suggested another test (5) because of a circumstance we had not previously considered. The Wizard is a recirculating air conditioner; that is, it does not draw fresh air from outside the car, but constantly re-cools the air within the car. We had been smoking heavily while waiting for the air to reach a uniform 113°, and it was rather stuffy by the time we started the test.

Test 3. Cooling in AUTOMATIC, fan in LOW, outside temp 103, inside temp 113. In 3 minutes, temp dropped to 89, continued dropping to 81 at 5-minute check, reached 79.5 at 10 minutes and 77 at 15. No further change.

Test 4. Cooling in AUTOMATIC at start, fan in HIGH, outside temp 104, inside temp 113. Readings a minute apart. After 1 minute, 100; 2, 90; 3, 84.5; 4, 79.5; 5, 76.5; 6, 75; 7, 72.5; 8, 70; 9, 68.5; at 10 minutes, a low temperature of 68. By 15 minutes, temperature was stable at 70 thruout the car. As you can see, at 8 minutes, the temperature dropped right past 70, because the coils in the cooling case continued to refrigerate for a short time after the thermostat released the magnetic clutch on the pump. At 15 minutes, we switched the cooling to MANUAL, while leaving the fan in HIGH, and reached the coldest figure of the testing series, 66° F, in a few minutes.

Test 5 was performed by cooling the car to 70 as we did in Test 4, and then opening the ventilating windows about an inch. This test gave us a surprise, for the temperature held at 70 with the fan in HIGH or LOW position. Parking with the engine idling caused no significant rise in temperature with the fan in HIGH. In LOW, the temp rose a degree per minute, or to 75 in 5 minutes. This gave us the advantage of fresh air with the comfort of air conditioning. Cigarette smoke was quickly sucked out of the vent windows, as other fumes would be.

The combined advantage and disadvantage of sealing the car completely, as is possible with a recirculating air conditioner, should be considered. A completely closed-up car usually excludes dust, pollen, and noxious odors. (These may be admitted by the type unit that has fresh-air intake, you should remember.) But, the disadvantages are great. If exhaust gases can accumulate inside the car, a recirculating unit will merely churn them up, and a little carbon monoxide poisoning goes a long way. Another factor is the loss of contact with "the outside." Several drivers of air-conditioned cars have failed to get out of the way of emergency vehicles and trains because they couldn't hear the sirens, horns, or other audible warnings.

The Wizard, like most under-dash types, has easily adjustable louvers to direct the flow of the cooled air. With the fan in HIGH (2700 rpm), this is quite a gale. We either got a draft on the leg, back of the neck, top of the head, or right in the face, depending on the louver adjustment. Conditions were better with the vent windows open, since the air was mixed and deflected more thoroly. In LOW (1500 rpm), the fan doesn't cause nearly as violent a breeze, nor does it cool as well. A really good modification would be a rheostat that would allow continuous adjustment of the fan's speed over a range of about 1200 to 2700 rpm. Then you could compromise and find an ideal operational speed to suit the weather conditions and your own sensitivity.

—Paul Sorber

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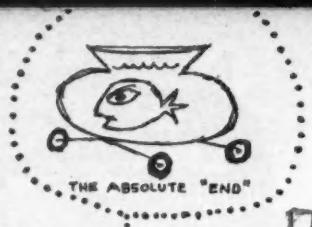


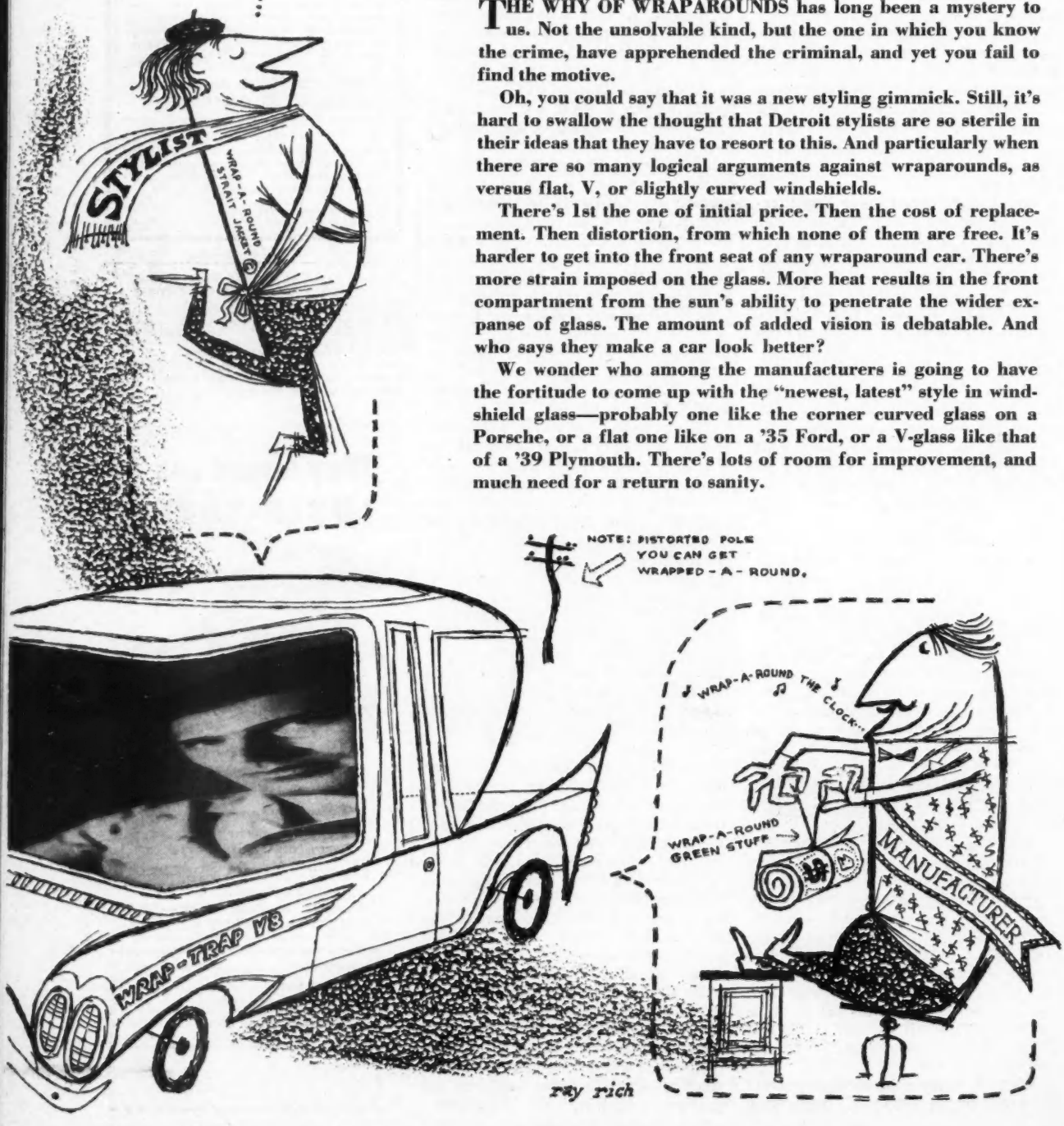
fROm ThE ReaR sEaT

THE WHY OF WRAPAROUNDS has long been a mystery to us. Not the unsolvable kind, but the one in which you know the crime, have apprehended the criminal, and yet you fail to find the motive.

Oh, you could say that it was a new styling gimmick. Still, it's hard to swallow the thought that Detroit stylists are so sterile in their ideas that they have to resort to this. And particularly when there are so many logical arguments against wraparounds, as versus flat, V, or slightly curved windshields.

There's 1st the one of initial price. Then the cost of replacement. Then distortion, from which none of them are free. It's harder to get into the front seat of any wraparound car. There's more strain imposed on the glass. More heat results in the front compartment from the sun's ability to penetrate the wider expanse of glass. The amount of added vision is debatable. And who says they make a car look better?

We wonder who among the manufacturers is going to have the fortitude to come up with the "newest, latest" style in windshield glass—probably one like the corner curved glass on a Porsche, or a flat one like on a '35 Ford, or a V-glass like that of a '39 Plymouth. There's lots of room for improvement, and much need for a return to sanity.



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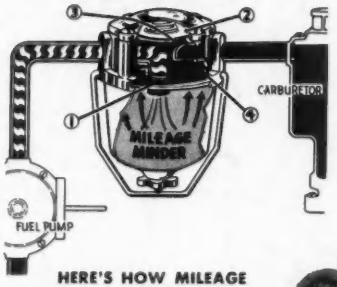

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